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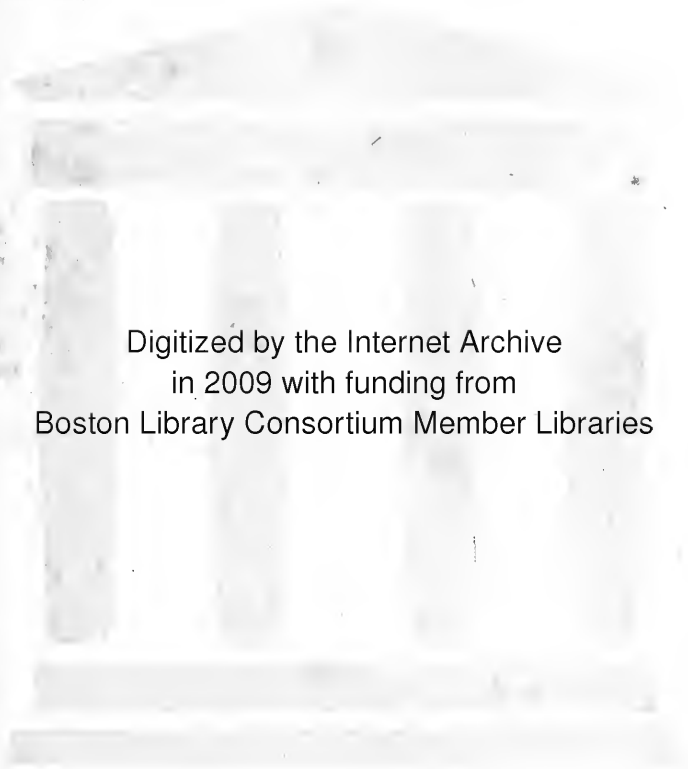


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SEVENTY-SECOND ANNUAL REPORT

OF THE

BOARD OF EDUCATION:

TOGETHER WITH THE

SEVENTY-SECOND ANNUAL REPORT

OF THE

SECRETARY OF THE BOARD,

1907-1908.

JANUARY, 1909.



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THE STATE BOARD OF PUBLICATION.

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STATE BOARD OF EDUCATION.

1909.

EX OFFICIO.

HIS EXCELLENCY EBEN S. DRAPER, *Governor.*

HIS HONOR LOUIS A. FROTHINGHAM, *Lieutenant-Governor.*

BY APPOINTMENT.

THOMAS B. FITZPATRICK, . *Brookline,* May 25, 1909.
FREDERICK P. FISH,¹ . . . *Brookline,* May 25, 1910.
JOEL D. MILLER, *Leominster,* May 25, 1911.
KATE GANNETT WELLS, . *Boston,* May 25, 1912.
CLINTON Q. RICHMOND, . *North Adams,* May 25, 1913.
GEORGE I. ALDRICH, . . . *Brookline,* May 25, 1914.
ELLA LYMAN CABOT, . . . *Boston,* May 25, 1915.
ALBERT E. WINSHIP, . . . *Somerville,* May 25, 1916.

SECRETARY.

GEORGE H. MARTIN, *Boston.*

CLERK AND TREASURER.

C. B. TILLINGHAST,² *Boston.*

GEORGE H. MARTIN, *Acting Clerk and Treasurer,* . *Boston.*

AGENTS.

JOHN T. PRINCE, *West Newton.*

JAMES W. MACDONALD, *Stoneham.*

JULIUS E. WARREN, *Worcester.*

FREDERIC L. BURNHAM, *Cambridge.*

Agent for the Promotion of Manual Arts.

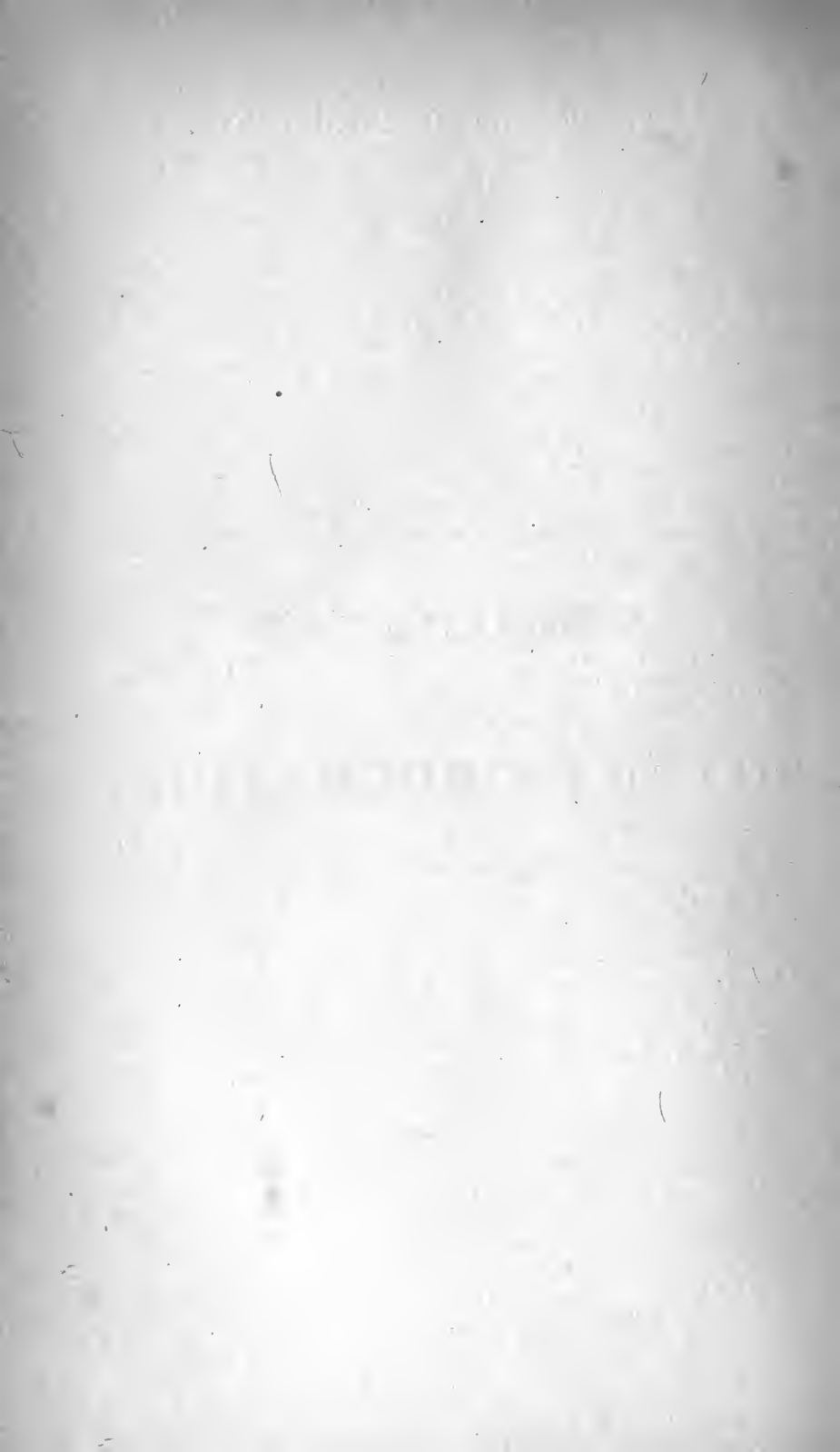
CLERICAL ASSISTANTS.

AGNES CAROLINE BLAKE, *Chief Clerk.* ESTHER E. ELWELL.

GEORGE H. VARNEY.

¹ Appointed March 10, 1909, to succeed Carroll D. Wright, deceased, who was appointed June 30, 1908, to succeed Caroline Hazard, resigned.

² Deceased, April 28, 1909.



ANNUAL REPORT

OF THE

BOARD OF EDUCATION.

ANNUAL REPORT.

The Board of Education has the honor to submit to the Legislature its seventy-second annual report. With this are submitted the reports of the several normal schools, the reports of the secretary and of the treasurer, and the abstract of the school returns which are required by law.

While the Board has large advisory powers over the general public school system, and has nominal direction of the instruction in the State schools for defective children, it is only over the normal schools that its control and responsibility are immediate and complete.

THE STATE NORMAL SCHOOLS.

In the 10 normal schools are 1,876 students and 129 teachers. The number of graduates in 1908 was 540. In the model and practice schools used by the normal students there are 5,088 pupils and 150 teachers.

In all their history the Board has striven to meet the advancing requirements of the public schools by sending from the normal schools teachers with high standards of scholarship and some practical experience.

Until recently it was thought that observation and practice in highly organized graded schools furnished ideal conditions for normal school students, and opportunities for such practice have been provided. Now it is seen that the graduates who go out into the ungraded rural schools have to face wholly new conditions. In the effort to adjust themselves to their environment there is waste of time and strength, and their normal training counts for less than it ought.

In order to strengthen the schools at this point, arrangements have been made with school authorities in several towns by which some of their ungraded schools may be used by the nor-

mal students for observation and practice. The town furnishes the building and the children and pays towards the support of the school at the rate which its other schools cost. The Board of Education selects the teacher, adds to the town money for her salary, and supervises the work of the school, the purpose being to make it a model rural school.

Such an arrangement has been made between the normal school at Salem and the school committee of Marblehead, a school of 40 pupils in 6 grades being used.

The Framingham school has the use of an outlying school in the town of 23 pupils in 6 grades.

The Lowell normal school uses a school in North Tewksbury of 38 pupils and 8 grades.

The North Adams school has organized a school of two rooms in Clarksburg, having 80 pupils in 8 grades, and a school in Williamstown with 60 pupils and 5 grades.

At Bridgewater several ungraded schools are used by the normal students, but the union is not as close as in the other cases.

While this enlargement of opportunity has added somewhat to the expense of the normal schools, the Board feels that no part of its expenditure is yielding more ample returns.

INDUSTRIAL WORK IN THE NORMAL SCHOOLS.

When, in 1870, in response to the petition of manufacturers and business men, the Legislature directed that industrial drawing should form a part of the required work of the public schools, the Board undertook to meet the new demand by furnishing the best instruction possible to the students in the normal schools. This it has continued to do. When, later, manual training began to be recognized as a valuable element in education, the Board made provision for preparing teachers to undertake it. In all the schools the students have been taught the use of wood-working tools, and have constructed a good deal of simple apparatus needed for school purposes. Lately this work has been broadened.

Hyannis led by inducting its prospective teachers and the children in its model school into the simple industries common to the towns of its vicinity. It has used garden work, house

building and furnishing, housekeeping, hammock and basket making, poultry raising and cranberry growing to vivify all the school activities.

At North Adams the students have been taught cooking and sewing.

Nearly all the schools have added school gardening to their work, and at Lowell, where the graduates will mostly teach in cities, home and window gardening has been given prominence.

In addition to this general work, special provision is now made for three kinds of industrial work in these schools. Household arts and economics are cared for at Framingham in a special department; a department for training teachers of commercial branches has been opened this year at Salem; and, by arrangement with the Massachusetts Agricultural College, work in agriculture is to be done at North Adams. It is most significant that in each of these cases the opening of the courses has shown an unexpected demand. The household arts department at Framingham has grown more rapidly than the other departments. It was supposed that 25 was an outside limit for the number of students likely to undertake the new work at Salem, and provision was made for only that number. The class at opening in September of this year numbered 65. At North Adams with the starting of the new work this year the entering class has doubled.

THE NORMAL ART SCHOOL.

If the Normal Art School is to maintain its position and meet the needs of the times, it must have enlarged facilities for doing its work. It should be remembered that when the State, in response to public demand, undertook to lay a new foundation for its various industrial interests by the introduction of drawing into all the public schools and by opening evening classes in drawing for workmen in all the industrial centers, it established the Normal Art School, the first and still the only State school of the kind, to prepare teachers and directors for all these schools. It was intended to be a center of influence to reach all the manufacturing industries of the State. It was to hold a place in Massachusetts similar to that held by the

South Kensington Art School in England, and for that reason Mr. Walter Smith, a graduate of that school, was made its first principal. Because of the broad foundation on which it was built, it has been able to secure the services as instructors of able and distinguished men: its present accomplished and versatile principal, Mr. Bartlett, teacher, artist and craftsman; Cyrus E. Dallin, Joseph R. De Camp and other noted teachers and artists.

The graduates of the school have gone widely as instructors into public and private schools and directly as designers into the industries. Had there been maintained in connection with the school, as at South Kensington, a museum of industrial art, there is no doubt that the influence of the school as an industrial art center would have been greatly increased.

Now the school is cramped in its quarters, and is obliged to turn away large numbers of would-be students. It is impossible to meet in any adequate way the demand arising from the revival of interest in industrial education in this State.

As a school of industrial design, it needs rooms in which to illustrate the constructive side of the practical arts. The present building is used to its utmost limit, probably beyond the limit of health and safety.

Two years ago the Board presented to the Legislature a plan for enlargement of the plant and a request for an appropriation. This was not granted, and the intervening years have made the case still more urgent. The Board will this year renew its application for relief.

INDUSTRIAL EDUCATION IN THE PUBLIC SCHOOLS.

In any movement for the enlargement of educational activities it is sound public policy to utilize existing agencies to the fullest extent possible. The State is now face to face with this problem in connection with industrial education, and will probably have to face it in the near future in connection with higher technical and general education.

The time has come to consider whether the public high school system, which is now more complete than in any other State, should not be utilized so far as practicable, and without weak-

ening its influence for general education for the new forms of education in which the people are becoming interested.

If it is desirable to acquaint the young men and women of the State with those industrial processes upon which the life of the State depends; if it is desirable to imbue them with the spirit of productive industry, and lead them to respect and honor the life of the home, the shop and the farm; if it is desirable to fit for earlier usefulness the largest number possible of these young people, — then it would seem beyond doubt or cavil that the place to do this work most economically is where the youth now are, — 50,000 of them in the high schools.

To duplicate existing buildings and laboratories and faculties would only add to the expense with no gain to education.

By suitable additions and modifications, much of the new work could be done. In many of the larger schools this could be done with little additional expense. The smaller schools would need some State aid, but not much, and for this legislation may be necessary.

The practical question now is, Will the State encourage and assist these schools to undertake this enlargement of their usefulness?

When the high schools have done all they can, there will still remain field enough for independent effort, and the high school work will be found to have prepared the way and created demand for such effort.

Every school in which this work is undertaken and carried to a successful issue would become a center of influence, and help to build up a public sentiment in favor of the new education.

Without turning the elementary schools into shops, modifications of their work are possible which would make them more valuable in preparation both for higher schools and for wage-earning pursuits.

Were manual training of a practical sort provided for all the grades, and were the arithmetic, the language and the drawing brought into closer relations to it; were nature study and school and home garden work made more general, — the passage from the grammar school to the high school would not

be less easy, but the passage from the school to the shop and the farm would be easier.

There is nothing revolutionary in this. It would only be carrying out the historic policy of the State to fit the schools of each new generation for the needs of the times.

THOMAS B. FITZPATRICK.

CARROLL D. WRIGHT.

JOEL D. MILLER.

KATE GANNETT WELLS.

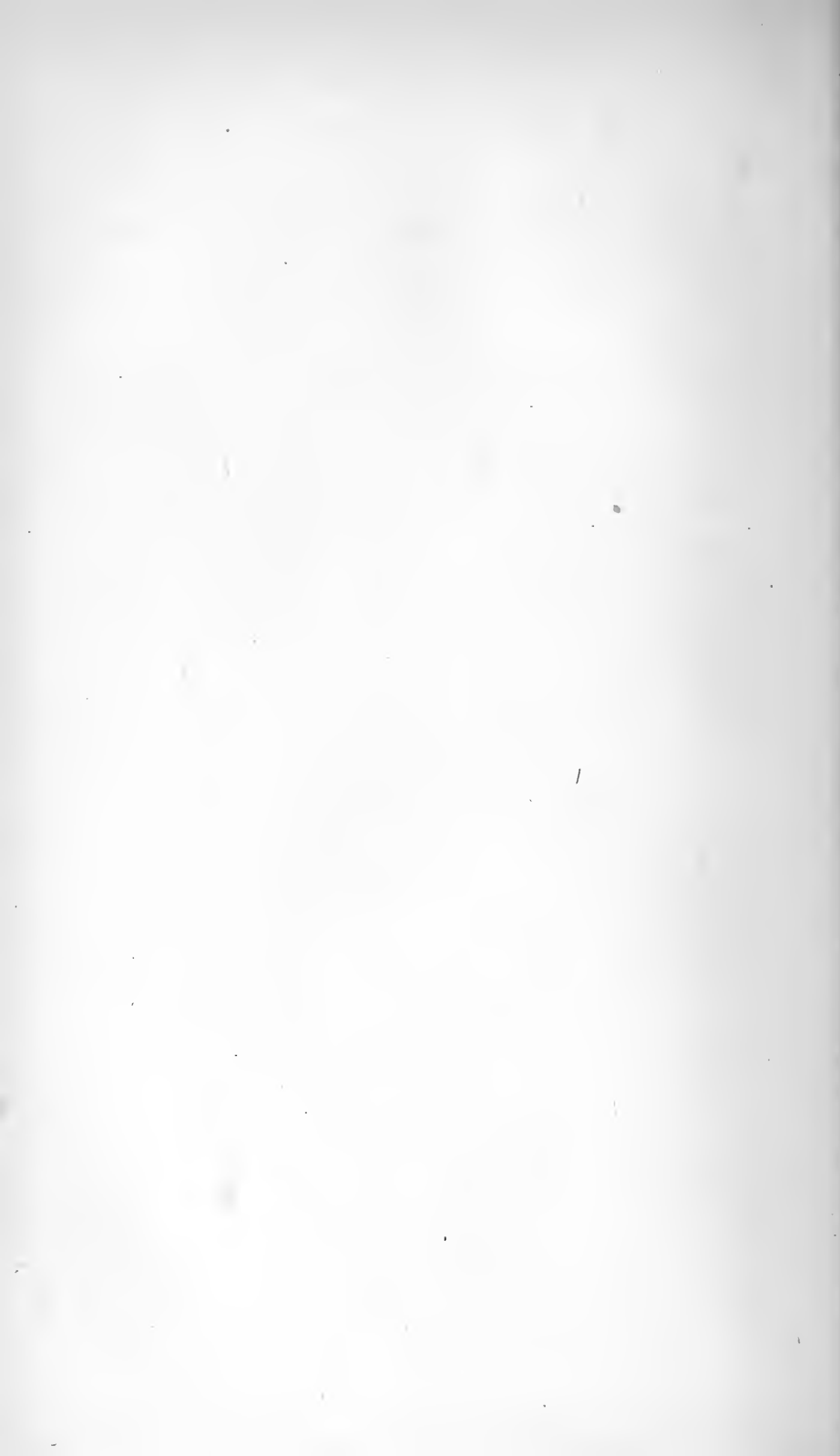
CLINTON Q. RICHMOND.

GEORGE I. ALDRICH.

ELLA LYMAN CABOT.

ALBERT E. WINSHIP.

REPORTS
OF
NORMAL SCHOOLS.



STATE NORMAL SCHOOL, BRIDGEWATER.

ARTHUR C. BOYDEN, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

ARTHUR C. BOYDEN,	History, and the history of education.
ALBERT G. BOYDEN, Principal Emeritus,	Educational study of man, the principles and art of teaching, school organization, school government, school laws of Massachusetts.
FRANZ H. KIRMAYER,	Latin, Greek, French, German.
WILLIAM D. JACKSON,	Physical science, mathematics.
CHARLES P. SINNOTT,	Geography, physiology, and hygiene.
HARLAN P. SHAW,	Chemistry, mineralogy, industrial laboratory.
FRANK E. GURNEY,	Geometry, algebra, astronomy.
CLARA C. PRINCE,	Vocal music, algebra.
FANNY A. COMSTOCK,	Arithmetic, geometry, English.
LILLIAN A. HICKS,	Supervisor of practice work in the model school, child study.
ELIZABETH H. PERRY,	Drawing and manual arts.
GRACE C. SMITH,	Assistant in drawing.
ELIZABETH F. GORDON,	Physical training.
GRETCHEN OSTERHOUDT,	Assistant in physical training.
ALICE E. DICKINSON,	English.
FLORENCE I. DAVIS,	Biology, nature study.
ANNA W. BROWN,	Vocal expression.

INSTRUCTORS IN THE MODEL SCHOOL.

BRENELLE HUNT,	Principal.
ETHEL P. WHEELER,	Ninth grade.
MARTHA M. BURNALL,	Eighth grade.
MYRA E. HUNT,	Seventh grade.
NELLIE M. BENNETT,	Sixth grade.
JENNIE BENNETT,	Fifth grade.
BERTHA O. METCALF,	Fifth and sixth grades.
MARY L. PERHAM,	Fourth grade.
SARAH W. TURNER,	Third grade.
NEVA I. LOCKWOOD,	Second grade.
FLORA M. STUART,	First grade.

INSTRUCTORS IN THE KINDERGARTEN.

ANNE M. WELLS,	Principal.
FRANCES P. KEYES,	Assistant.

CHANGES IN THE FACULTY.

The following changes have been made in the faculty this year. Miss Ruth W. Smith, assistant in the department of physical training, resigned to take charge of a similar department in the State Normal School at Montclair, N. J.; and Miss Gretchen Osterhoudt, a graduate of the Boston Normal School of Gymnastics, was appointed to fill the vacancy.

Miss Adelaide Reed, for many years a most faithful teacher

in the ninth grade of the model school, resigned at the close of the school year. Her quiet, refined manner and clear teaching have left an indelible influence on a large number of young people. We were fortunate in securing for this place the services of Miss Ethel P. Wheeler, a graduate of the Salem Normal School, who was teaching in the Lynn Training School.

Miss Sarah V. Price, also a teacher in the model school, was obliged to resign on account of ill health. The vacancy caused by her resignation was filled by the appointment of Miss Bertha O. Metcalf of West Medway, a teacher of several years' experience.

SELECTION OF CANDIDATES.

The demand upon the normal schools for good teachers is far beyond the supply. For this reason, special pains should be taken in making the selection from candidates who apply for admission, in order that the efforts of the schools may be expended in the most effective manner. This school has reached the limit in the number of students which it can successfully handle with its present facilities, hence it more rigidly insists on the best qualifications for entrance. Two points of emphasis are made in the selection of candidates. The first of these is good health. That sympathy for children and appreciation of their struggles which is the prime qualification of a successful teacher is largely dependent on bodily vigor and freshness. We are therefore requiring a more careful physical examination of candidates by the school physician. Many valuable suggestions are made and remedies insisted upon; those who are physically incompetent are not allowed to begin the work; and oftentimes the result of the examination is a revelation to the parents of the young people. This concern for the health of the student is followed up specifically and continuously in the regular gymnasium exercises and baths, where the esthetic element, also, is in a large degree added to the usual physical training. Care of the health is still further supplemented by the supervision of the trained nurse, who is one of the regular employees in the dormitories.

The second point of emphasis is scholarly attainments. The new method of admitting on the certification of approved high

schools has been of great assistance to this school in raising the standard of scholarship. The high schools are responding to the responsibility laid upon them, and by visits and consultations it is becoming possible to attract abler students to the profession of teaching, while the weaker ones who are contemplating a normal school course are often turned in other directions through the difficulty in meeting the entrance requirements. This policy has tended to increase the number of applicants, rather than to diminish them.

VOCATIONAL TRAINING.

The vigorous and wide-spread discussion of vocational training means much more than the introduction of a few new subjects into the curriculum; more than the reorganization of courses along more practical lines; even more than the addition of trade schools and technical courses to the present school system. It is a part of the movement of this generation towards bringing school education into closer connection with the real conditions and activities of the life of the new century. It means the broadest development of the individual for the purpose of social service, and it includes both the vocations and the avocations of life.

Three lines of preparation are recognized in the Bridgewater school as essential for this work: first, a careful study of the attitude of children toward industry, to determine their natural interests in processes and products, to understand the stages in their development along manual lines, and to determine the relative place and value of individual and group work; second, a simple working knowledge of the great typical industries, and of the materials that may be used in schools and that can be adapted to meet the needs of each community; third, the ability to correlate constructive work with the other subjects of school study, so that a vital connection is made with the interests and environment of the child. History includes social and industrial development as distinctly as political development; English and drawing become definite means of constructive expression; geography includes the industrial lines as apperceptive centers for understanding world conditions; and mathematics becomes of direct value in practical computations.

The natural science garden is a valuable addition to the school in connecting the class instruction with the great industries of agriculture and floriculture. With the construction of the new greenhouse we shall be able to give our normal students preparation for even more effective work. The rearrangement of some of the laboratories to meet the new conditions has been another factor in connection with this line of instruction.

SPIRIT OF THE SCHOOL.

Believing that the success of a teacher depends fundamentally on spiritual qualities, the constant effort of the school is to develop the finer qualities of character. The spirit of honor is cultivated through the plan of individual self-government, which is based on suggestion and personal conference rather than on a code of rules. In every department of study honest effort is regarded as the prime essential to good standing. A hearty spirit of co-operation and willingness to serve is manifest in the various activities of school life. The so-called culture subjects are used to cultivate a spiritual sensitiveness to the best in literature, art and music.

OPPORTUNITIES FOR TRAINING.

The extended lines of training are proving their value each year. They include: first, working with individual children who need help in developing good habits of study or work, or who have peculiarities that prevent the full use of class exercises, or who need special opportunities for individual self-expression; second, practice under actual schoolroom conditions, as found in the schools of a number of towns adjoining Bridgewater; third, opportunities for observation and practice in rural schools.

DORMITORIES.

Within a few years it will be a matter of wise foresight, if not of necessity, to replace the wooden "Normal Hall," built in 1869, by a modern brick residence hall similar to "Tillinghast Hall." At the same time a separate administration building should be constructed, in which should be included the offices and reception rooms, the dining room and the kitchen

arrangements. This plan, if carried out, will aid in the administration of the school, and will obviate the massing of a large number of students in a wooden building.

STUDENT LOAN FUND.

During the past year, through the efforts of the alumni and other friends of the school, a loan fund has been raised for the assistance of worthy students. This fund now nearly reaches the sum of one thousand dollars, and special means will be taken during the coming year to materially increase the amount. It is in charge of a committee appointed by the faculty, who have made regulations governing its use. Divided into one-hundred-dollar lots, it will serve as a set of scholarships which may be loaned to students who, while doing excellent work in the school, find themselves without means to complete the course. The State aid fund now divided among the ten normal schools, while of great assistance, does not give help in sufficient amount to meet all the demands. It must be remembered that the normal schools attract a large number of worthy students from families of limited means. A little timely assistance often means much to the student, and to the State, in his preparation for the teaching profession.

STATISTICS.

The statistics of the school for the year ending Aug. 31, 1908, are as follows:—

1. Number of students for the year, 270,—28 men, 242 women; number in the entering class, 125,—11 men, 114 women; number of graduates for the year, 101,—8 men, 93 women; number receiving certificates for special courses, 5 women.

2. Whole number of students who have been members of the school, 5,743,—1,370 men, 4,373 women; number who have received certificates or diplomas, 3,922,—920 men, 3,002 women; of whom 334 have graduated from the four years' course,—172 men, 162 women.

3. Of the 270 members of the school for this year, Plymouth County sent 91; Norfolk, 55; Bristol, 39; Suffolk, 19; Middlesex, 16; Barnstable, 15; Essex, 9; Hampshire, 5; Hampden, 4; Dukes, 3; Worcester, 3; Nantucket, 2; Franklin, 1; the State of Vermont, 3; Maine, 2; New Hampshire, 2; Connecticut, 1; total for Massachusetts, 262, 13 counties and 82 towns being represented; from other States, 8.

4. The distribution of the students for the year among the different courses was as follows: special courses, 17,—4 men, 13 women; regular four years' course, 47,—23 men, 24 women; intermediate, or three years' course, 36,—1 man, 35 women; kindergarten-primary course, 9 women; elementary course, 161 women.

5. The average age of those admitted was 19 years, 7 months; that of special students, 26 years, 8 months; that of students entering upon regular courses, 18 years, 6 months.

6. Of the 125 admitted, 9 came from colleges, 3 from normal and training schools, and 113 from high schools and academies; 18 had taught previous to coming.

7. The occupations of the fathers of those admitted were given as follows: mechanics, 34; merchants and dealers, 15; superintendents and foremen, 9; clerks, 8; farmers, 7; civil service, 5; physicians, 5; janitors, 5; laborers, 5; manufacturers, 4; salesmen, 4; railroad service, 4; sea captains, 3; teachers, 2; contractors, 2; printers, 2; real estate agent, surveyor of lumber, librarian, artist, landscape gardener, undertaker, baker, 1 each; not living, 4.

8. Of the 125 students admitted, Bridgewater sent 10; Fall River, 10; Quincy, 9; Brockton, 8; Taunton, 7; Haverhill, Hingham and Weymouth, 4 each; Boston, Plymouth and Rockland, 3 each; Andover, Braintree, Easthampton, Marion, Middleborough, Palmer, Provincetown, Waltham, West Bridgewater and Whitman, 2 each; Abington, Brewster, Chatham, Chelsea, Dighton, Easton, Framingham, Gloucester, Halifax, Hanover, Hanson, Holbrook, Hyde Park, Kingston, Lakeville, Longmeadow, Marshfield, Mattapoisett, Medway, Milton, Northampton, Norwell, Norwood, Oak Bluffs, Plympton, Raynham, Somerset, South Hadley, Stoughton, Walpole, Wareham, Winchester and Winthrop, 1 each; the State of Maine, 2; New Hampshire, 2; Vermont, 2; Connecticut, 1.

GEORGE I. ALDRICH,
CARROLL D. WRIGHT,
Board of Visitors.

STATE NORMAL SCHOOL, FITCHBURG.

JOHN G. THOMPSON, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

JOHN G. THOMPSON,	Pedagogy.
E. A. KIRKPATRICK,	Psychology, child study and school laws.
PRESTON SMITH,	Natural science and school hygiene.
CHARLES S. ALEXANDER,	Mathematics.
ANNETTE J. WARNER,	Drawing.
FLORA E. KENDALL,	English.
ABBY P. CHURCHILL,	Nature study and biology.
ELIZABETH B. PERRY,	Music.
NELLIE B. ALLEN,	Geography.
FLORENCE N. MILLER,	History.
LILLIAN A. PHILLIPS,	Manual training.
JANE E. MITCHELL,	Physical culture.
MAUD A. GOODFELLOW,	Library economy, librarian and clerk.

[The teachers in the normal school supervise the teaching of their respective subjects in the model and practice schools.]

INSTRUCTORS IN THE MODEL AND PRACTICE SCHOOLS.

CHARLES S. ALEXANDER,	Principal of training schools.
MATILDA B. DOLAND,	Supervising principal at Day Street school.
MERCIE A. ALLEN,	Supervising principal at Edgerly school.
MARGARET M. SLATTERY,	Supervisor.
MATTIE A. COLE,	Supervisor.
MARY McCONNELL,	Supervisor.
IDA M. AUSTIN,	Supervisor.
L. FRANCES JONES,	Supervisor.
CAROLINE G. HAGAR,	Supervising principal at Highland Avenue school.
SADIE E. LAMPREY,	Assistant supervisor.
FLORENCE E. SCOTT,	Principal of kindergarten.
BERTHA M. MCGEE,	Assistant kindergartner.

GROWTH.

Three new members have been added to the faculty during the year: Miss Jane E. Mitchell, who takes charge of physical culture; Miss Sadie E. Lamprey, assistant supervisor in primary grades; and Miss Bertha M. McGee, assistant kindergartner. Their work has been very satisfactory.

The steady growth in membership has continued. The num-

ber of students on December 1 is given below for 1908 and for each of the preceding five years:—

1903,	117
1904,	133
1905,	136
1906,	141
1907,	172
1908,	191

From Dec. 1, 1898, to Dec. 1, 1908, the number doubled. Since the establishment of the school every addition to its facilities has immediately shown itself in increased attendance and in a lowered cost to the State per pupil. As long as there are not enough normal graduates sent out each year to meet the demand, the question for consideration is not so much the total cost as the cost per pupil. In making this statement we are not forgetting that there is a more important question than either,—the question of the quality of the graduates which it sends out. The new practice school, opened in 1900, resulted in an immediate increase of 10 per cent. in membership, and a similar result followed the opening of the new boarding hall in 1903. Another boarding hall is needed to-day. From a financial view point alone it would be a paying investment for the State. Land is needed for playground and for school gardens. There is now unimproved land adjoining the State property, which it would be well to secure while it can be obtained cheaply.

KINDERGARTENS.

In September, 1908, the city of Fitchburg established two kindergartens, placing each in charge of two normal students, thus providing three rooms for kindergarten training under the direction of the head of the kindergarten department at the normal school. This enables those taking this course to have abundance of practice under differing conditions. The kindergarten course has been so co-ordinated with the work of the regular course that those who desire to teach in grade 1 get some work in the kindergarten, and *vice versa*. Superintendents always look with favor upon primary teachers who have had kindergarten training and experience.

SCHOOL GARDENS.

For some years under the direction of the instructor in nature study the children in the practice schools have planted and cared for school gardens, including plots planted for the purpose of illustration in science and geography. In the fall they have planted bulbs for forcing. The normal students have learned, both by theory and practice, how to plan a school garden, select seed, prepare soil, etc.; also how to plant bulbs, to care for them during the winter, and when and how to force them. This year we have built a cold frame with a capacity of nearly two thousand bulbs, and have potted several hundred ready for forcing. This work is very satisfactory, as the child and the teacher can follow the whole process without a break.

LIBRARY INSTRUCTION.

In May, 1906, Mr. Arthur C. Boyden, principal of the Bridgewater State Normal School, visited the normal schools of the middle west. In the eight schools which he visited he found courses in library instruction, the value of which was pointed out in his report to the State Board of Education. In the winter of 1907 work along this line was begun at the Fitchburg State Normal School, under the direction of the librarian. The work has been of much interest to the students from the first, and has constantly grown in helpfulness. The course as given includes: classification and cataloguing; selecting and purchasing of books, — trade bibliography; use of reference books; care of books, mending of books, book binding; the make-up of a book, and the purpose of each of its parts; making of a bibliography; history of books and of libraries; library extension work, especially work done with children, — ways in which the public library and public schools co-operate; collecting, mounting and classifying of pictures and clippings.

Some of the objects of this work in library instruction are to have the students: learn which book to use, and how and when to use it; discover how to teach children to care for books, to use books as tools, to form the habit of reading books; correlate this library work with the course of study.

NEW MANUAL ARTS BUILDING.

Upon petition of the city of Fitchburg, through its mayor, the Legislature of 1908 appropriated \$75,000 for the erection of a building upon the grounds of the State Normal School at Fitchburg to be used for instruction in manual arts. It is proposed to bring together into this building from all parts of the city of Fitchburg those boys and girls in the two years below the high school (*i.e.*, twelve to fourteen years of age) who do not expect to enter the high school, and to give them a more practical education than is now given in the upper grammar grades. Fifty-two per cent. of the pupils in the public schools of Massachusetts leave at the end of the grammar school, or before they have reached the age of fourteen. The work of the Industrial Commission cannot reach these children before they leave school, therefore it is proposed to do something for them in the public schools. In Fitchburg they are to constitute a part of the practice schools connected with the State Normal School.

The building is also to provide for the normal students opportunities for instruction in manual arts; and for those who desire to teach in the grammar grades, observation and practice in the more practical work that is being called for everywhere to-day. It will be completely equipped for domestic art and domestic science, and will contain shops for working in wood, textiles, leather, metal and clay. It will enable many of the normal students coming from the smaller high schools to round out a book education by an education in doing; and will give an opportunity to teachers now in service, by taking a special one year's course, to prepare themselves for the new work for which superintendents are seeking teachers. A study of the industries is conducted by the department of geography, especial attention being given to the industries of Fitchburg and vicinity. The owners and operators of mills and factories have cordially co-operated, welcoming classes to their mills, and appointing men to explain the manufacturing processes in detail. In connection with the new school we shall expect to extend and to broaden this work. A collection of raw materials, finished products, pictures, descriptive printed matter, etc., has been begun.

The local manufacturers have contributed liberally to it. This will probably be housed in the new building, and should prove of great value. The building is in course of erection. It is hoped to dedicate it in September, 1909. For grading and equipment it will be necessary for the Legislature to make a special appropriation.

PROFESSIONAL IMPROVEMENT.

The members of the faculty of the Fitchburg Normal School strive not only to keep alive and awake, but to grow. Faculty meetings for the discussion of problems connected with the work are means to this end; attendance upon Saturday meetings in Boston and elsewhere, study and travel during the summer vacation, are others. During the last summer four members of the faculty were in Europe, one in California, one in Canada, one in Mexico; two were on the program of the National Educational Association at Cleveland; and another gave addresses during the summer in the middle west and elsewhere. Members of the faculty have always been in demand as teachers in summer schools; three were so engaged the last vacation. Three weeks in April and May and a part of November, by the courtesy of the Board, the principal of the school visited normal schools in Indiana, Illinois, Michigan, New York, Pennsylvania and New Jersey. The reports of the visits abroad and in this country have been interesting and helpful.

STATISTICS.

The statistics for the year ending Aug. 31, 1908, are as follows: —

1. Number of different students for the year, 177. Number in the entering class, 89 women. Number of graduates for the year, 58 women, 43 from the elementary or two years' course, 2 from the kindergarten course, and 13 from the advanced course. Number receiving certificates for special courses, 20.

2. Whole number of students admitted since the opening of the school (September, 1895), 816, — 805 women, 11 men (this number includes the class admitted in the fall of 1908, but does not include the teachers who have taken special afternoon work at different times).

3. Number of States represented in the membership of the school for this year, 2.

4. Number of counties in Massachusetts represented, 7.
5. Number of towns in Massachusetts represented, 40.
6. Average age of entering class, 20.5 years; that of special students, 23.5 years; that of students entering upon regular courses, 18 years.
7. Number who have had experience as teachers, 20.
8. Occupation of fathers: Laborers, 16; farmers, 13; merchants, 7; deceased, 7; foremen, 4; milkmen, 4; manufacturers, 4; machinists, 3; carpenters, 3; masons, 2; clerks, 2; plumbers, 2; mechanics, 2; janitors, 2; contractors, 2; moulders, 3; retired, 1; photographer, 1; undertaker, 1; musician, 1; overseer, 1; engineer, 1; blacksmith, 1; travelling salesman, 1; physician, 1; horse dealer, 1; chief of police, 1; editor, 1; cattle dealer, 1.
9. Number of students, Dec. 1, 1908, 191.

JOHN G. THOMPSON,
Principal.

STATE NORMAL SCHOOL, FRAMINGHAM.

HENRY WHITTEMORE, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

HENRY WHITTEMORE,	School organization and government, pedagogy.
AMELIA DAVIS,	Mathematics and astronomy.
FREDERIC W. HOWE,	Chemistry, physics, dietetics, household sanitation.
AVERY E. LAMBERT,	Biology, nature study, bacteriology, physiology.
LUCILE G. FRENCH,	Assistant in sciences.
LOUISA A. NICHOLASS,	Household arts.
ANNIE B. PENNIMAN,	Household arts, sewing, laundry work, basketry.
LILLIAN A. ORDWAY,	Geography, psychology of childhood, Latin, gardening.
MARY C. MOORE,	English language and literature.
ANNA L. MOORE,	History, history of education, civil polity.
MARY H. STEVENS,	French, English.
JANE E. IRESON,	Elocution and reading, gymnastics.
EDMUND KETCHUM,	Drawing and hand craft.
FREDERIC W. ARCHIBALD,	Music.
MARY BENNETT,	Physical culture, physiology.

INSTRUCTORS IN THE PRACTICE SCHOOL.

ANTOINETTE ROOF, ¹	Principal.
SUSAN M. EMERSON,	Ninth grade.
ANNA M. ROCHEFORT,	Eighth grade.
LOUIE G. RAMSDELL,	Seventh grade.
NELLIE A. DALE,	Sixth grade.
GERTRUDE K. PRATT,	Fifth grade.
ALICE V. WINSLOW,	Fourth grade.
- - - - -	Third grade.
ELIZABETH MALLOY,	Second grade.
MAUDE A. DOOLITTLE,	First grade.
PEEBE M. BEARD,	Kindergarten.

GENERAL MANAGEMENT.

Inasmuch as the management of school economy is as essential a feature of conservative, judicious progress as is that of good scholarship, it is pleasant to record that the past year has shown, even more fully than in previous years, a continuous growth in wise administrative power. Just so far as the high schools maintain an increasingly high standard, though the rate

¹ A temporary teacher in charge.

of advancement each year may be slight, will our normal schools profit by such advance and be able to send forth better equipped teachers. Especially will this be the case in regard to those who can stay but two years in a normal school, so heavy in many instances is the pressure of self-support. Even when the realization that a longer expenditure of time spent in training brings better financial returns, it is not always possible for pupils to sacrifice the needs of the present moment to future advancement.

CHANGES IN CROCKER HALL.

Through the special legislative appropriation last winter of \$5,500 we have been enabled to enlarge the kitchen in Crocker Hall and to equip it with more modern facilities for its work. As a hundred persons, instructors and students, take their meals in the dining room of Crocker Hall, it was extremely difficult to do the cooking for such a large family in the old but small kitchen, which once had been ample in space. We also have been able to obtain additional bath and toilet rooms and another sleeping room. All these changes have been admirably carried out by the firm of Peabody & Stearns, with Mr. Frank A. Kendall as supervising architect.

CHANGES IN THE FACULTY.

The opening of the new high school in South Framingham has somewhat relieved the crowded condition of the practice school by the removal of its ninth grade, Miss Susan M. Emerson instructor, to the high school. Miss Grace Le B. Esty, after two years of excellent service to the State, resigned to be married. The number of instructors in the practice school has been increased by the appointment to the fifth grade of Miss Adelaide King Pratt, a former graduate of Bridgewater Normal School, and, at the time she came to Framingham, principal of the training department of the State Normal School at Randolph, Vt. Miss Maude Alice Doolittle, a graduate of Framingham State Normal School, and, at the time of her appointment, teacher of a first grade in Plainfield, N. J., has been appointed teacher of the first grade. These appointments have permitted of readjustment of the other grades of the school.

HOUSEHOLD ARTS DEPARTMENT.

The pupils in this department now number 89, — an increase which presumably is due to the establishment of a three years' course, for, as the industrial character of education in general becomes more recognized, specialization of function needs to be persistently thorough. Proficiency in household arts now means adaptation to the needs of daily living, as home nursing and bookkeeping, household decoration and sanitation, cookery and bacteriology supplement each other.

NEEDS OF THE SCHOOL.

The growth of the normal school, the present number of its pupils being an enrollment of 261, makes more than ever imperative the need of a new practice school building. It is hoped that the Legislature will grant such a modest appropriation for a new practice school on land already belonging to the State, adjacent to its present buildings, that we shall not be compelled much longer to have 50 pupils in one small room. The school committee of Framingham is willing to do all it can to forward the erection of a separate school building for the use of the practice department of the school.

LECTURES.

Mr. Frederic L. Burnham gave two lectures. Hon. George H. Martin spoke on "Change in Educational Aims and Methods;" Mr. John T. Prince on "Educational Processes." Miss Emily Paulson lectured on "The Handicapped Child;" Miss Kate Brownlee on "The Moral Training of Children." Mrs. Christabel Kidder gave the reading of "The Winter's Tale." Mr. Edward Howe Forbush spoke on "The Care and Protection of Birds;" Mrs. K. G. Wells on "Manners and Morals." Mr. A. T. Kempton gave an illustrated lecture on "Hiawatha." The glee club of the school gave a concert; and under the direction of Miss Bennett a unique May day festival was held.

GIFTS.

The school received from Miss Julia A. Sprague several books and magazines for the library and reading room, and from

Miss Susan Minns of Boston five large framed photographs of unusual excellence. Mrs. K. G. Wells also sent framed pictures. Bronze tablets, to mark the various portraits hanging in the school of its past principals, and to indicate their services to it, were purchased with money contributed for this purpose by the class of 1907. The class of 1908 presented a catalpa tree and planted it, and also gave a generous sum of money towards some gift for the school.

STATISTICS.

1. Number of pupils admitted September, 1907, 137. Number who graduated June, 1908, 61; of this number, 55 graduated from the regular two years' course, and 6 from the department of household arts. Whole number of pupils for the year 1907-08, 247. They are divided as follows: seniors, 70; middle juniors household arts, 30; juniors, 147; total, 247.

2. Average age of pupils admitted September, 1907, 18 years, 10 months.

3. Occupations of parents: mechanics, 36; merchants, 27; farmers, 23; teamsters, 6; superintendents of industries, 10; gardeners, 3; commercial travellers, clergymen, watchmen, dyers, 2 each; treasurer, stable keeper, dentist, laundryman, printer, editor, plumber, butcher, brick-maker, shipper, lawyer, brewmaster, engineer, warehouseman, doctor, assessor, barber, sea captain, pilot, junk dealer, ranchman, real estate, insurance agent, postmaster, 1 each.

4. Residences of 137 pupils admitted September, 1907; Massachusetts, by counties: Franklin, 4; Hampshire, 1; Hampden, 6; Worcester, 23; Suffolk, 7; Middlesex, 61; Norfolk, 20; Bristol, 4; Plymouth, 5; Essex, 3; total, 134. From other States: Maine, 1; New Hampshire, 2; total, 3. From Massachusetts, 134; from other States, 3; total, 137.

KATE GANNETT WELLS,
THOMAS B. FITZPATRICK,

Board of Visitors.

STATE NORMAL SCHOOL, HYANNIS.

W. A. BALDWIN, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

W. A. BALDWIN,	Psychology, pedagogy, history of education.
ANNIE S. CROWELL,	Physical training, physiology, advanced geometry.
HANNAH M. HARRIS,	English, history.
JULIA A. HAYNES,	Biology, mathematics.
MINERVA A. LAING,	Chemistry, mineralogy, drawing.
CHARLES H. MORRILL,	Geography, manual training, physics.
EDMUND F. SAWYER,	Vocal music. .

INSTRUCTORS IN THE TRAINING SCHOOL.

A. MONROE STOWE,	Principal, eighth and ninth grades.
ANNIE H. CHADWICK,	Sixth and seventh grades.
HARRIET C. MOORE,	Fifth and sixth grades.
MARY GREGG,	Fourth grade.
SARAH S. FORD,	Second and third grades.
IDA E. FINLEY,	Principal of primary department, first grade.

TEACHERS.

There has been no change in the regular teaching force during the past year. Miss Edith S. Haskell, who substituted in history and literature during the spring term, did intelligent, strong work. In September Miss Hannah M. Harris returned to her work with renewed vigor and enthusiasm.

Miss Minerva A. Laing undertook her usual work after the summer vacation, expecting to continue through the year. After about four weeks of work it became apparent that she ought not to continue, and her physician ordered a rest and change. In view of ten years of faithful service in the school, Miss Laing was granted leave of absence for one year. A part of the work of Miss Laing is being done by other teachers, but for a part of the work a substitute will be secured.

PRINCIPAL BALDWIN IN EUROPE.

After seeing the school well started, Mr. Baldwin sailed Oct. 15, 1907, for Europe, returning June 20, 1908, in time

for the closing exercises and for the summer session. As was expected, the work of the school was not allowed to suffer during his absence. No new lines of work were attempted, but Mr. Morrill, the acting principal, with the help of the other members of the faculty, held loyally to the high standards which the school has ever tried to uphold. During the year Mr. Baldwin visited public schools in Liverpool, Chester, London, Edinburgh, Glasgow, Munich and Vollandam. He spent much time in investigating the training of teachers in England and Scotland, visiting all types of training colleges, university training classes and city training centers, and has incorporated the observations made in a report to the United States Commissioner of Education. He visited many schools for defectives in London, Liverpool and Edinburgh. He devoted considerable time to the continuation schools in Munich and Edinburgh. He several times visited the Robert Browning and Passmore Edwards settlements in London. He carefully inspected Dr. Campbell's famous Royal Institute for the Blind in London. He spent two days at Bedale School. He interviewed many prominent people who are interested in the Parents' Union movement, and visited Miss Mason's school at Ambleside, which is the headquarters for their literature, the model school and the school for the training of their teachers. He gave addresses before the Edinburgh Parents' Union, The London Child-study Association and many other educational organizations. He had conferences with educational leaders such as Dr. Sadler and Professor Finley of Manchester University, Superintendent Kerschensteiner and Dr. Reinland of Munich, Professor Schwartz of Geneva, Dr. Morgan of Edinburgh and Mr. J. C. Hudson of London. He reports that everywhere he found education moving forward, a hopeful spirit and a disposition to think of America as a land unfettered by traditions, believing in its public schools and willing to lavish unlimited amounts of money upon them, — a land full of opportunity for doing leadership work. He returns feeling that the normal schools of Massachusetts have indeed a mission, not only for their own State, but for the world, and that the Hyannis school has only to continue quietly to develop along lines already started to do its share of this leadership work.

AN EUROPEAN ESTIMATE OF THE HYANNIS NORMAL SCHOOL.

The following quotation appeared in a recent issue of the "Hyannis Patriot" : —

HYANNIS SCHOOLS TO THE FRONT.

"Moral Instruction and Training in Schools," in two volumes, has just been published in London. The book is a report of an international inquiry, which a meeting held in London in 1906, to consider the question of moral instruction and training in schools, instituted. The volumes include reports from the schools of Great Britain, France, Belgium, Scandinavia, Switzerland, Germany, United States, Canada, Australia, New Zealand and Japan. Those interested in the Hyannis schools may be pleased and proud that in this report a chapter is devoted to the work of the Hyannis schools, by Principal William A. Baldwin of the State Normal School. This book brings out for consideration differences in opinion as to the way in which moral instruction may be most wisely given. In the introduction it says: "Among the different views of what is the right organization of the work of a school, two are in strong contrast at the present time. The first view lays especial stress upon a didactic power of the school; the second, upon the educated power of the activities of the school community. The first view finds its most characteristic expression in the teacher directing from his desk the intelligence and aspirations of the pupils who sit before him in the class room; the second is that of a more or less self-governing community, occupied with vital movement of all kinds, full of freedom and initiative in a great variety of tasks, self-expressive, educatively practical, busy with the effort to accomplish certain things. This view has found its most persuasive advocate in Prof. John Dewey of Columbia University, and perhaps its most elaborate realization in the University Elementary School, Chicago, and the State Normal School at Hyannis, Mass.; and several other well-known schools in England, Denmark, Germany and the United States bear witness to the influence of the new doctrine."

These volumes show much of the vast work that is being done in the schools of the world that the children may be trained to lives of usefulness and happiness.

To be cited in this book, which will be read with interest and profit by educators the world over, is the broadest recognition which the Hyannis schools have yet received.

REPAIRS.

After eleven years of constant use for both winter and summer sessions, the buildings and furnishings begin to need more

than the usual annual repairs. During the past summer the following items received attention: defective ceilings were repaired, at an expense of about \$180; the tops of tables in the recitation rooms were renewed by sandpapering and varnishing, at an expense of \$150; Venetian shades were repaired, at a cost of about \$75; window frames, ceilings, etc., were painted, floors were oiled and varnished, at a cost of about \$500; mattresses were made over, at a cost of \$100.

MONEY RETURNED TO THE STATE TREASURY.

The State inspector of boilers had suggested that new boilers would be required in the near future, and \$1,500 had been added to the repair fund for that purpose. It was found that the old boilers could be used for another year by reducing the pressure, and so the \$1,500 was turned back to the State treasury as an unexpended balance.

MUCH-NEEDED REPAIRS.

The State inspector has again suggested the necessity for new boilers, and we expect to need about \$1,500 for that purpose. Two steam pumps are needed, one for pumping cold water to the tanks in the top of the buildings and the other for pumping hot water returning from the dormitory. Crushed stone is needed for renewing the walks and drives of the campus.

STATISTICS.

1. Number of students registered Sept. 10, 1908: men, 12; women, 34; total, 46.
2. Number of students registered since Sept. 9, 1897: men, 68; women, 363; total, 431.
3. Average age of entering class when admitted: 20 years.
4. Number who have had experience as teachers: 9.
5. Residence of pupils: Barnstable County, — Barnstable, 8; Dennis, 1; Harwich, 2; Orleans, 1; total, 12; Dukes County, — Gay Head, 1; Tisbury, 1; total, 2; Franklin County, — Conway, 1; Norfolk County, — Walpole, 1; Suffolk County, — Boston, 1; Worcester County, — Barre, 1; Mexico, 2.
6. Occupation of pupils' parents: merchants, 4; carpenters, 2; fishermen, 2; poultry dealers, 2; cabinet maker, engineer, farmer, livery stable keeper, State officer, selectman, steward, watchmaker, each 1.

SUMMER SESSION.

The interest in the summer session continues to increase and to deepen. The number of applicants for 1908 was greater than the boarding accommodations of the village of Hyannis were able to supply, so that it was found necessary to advise some teachers to go elsewhere. The proportion of superintendents of schools and of supervisors of drawing and manual training teachers was very large, thus insuring that many more teachers will be influenced by the Hyannis work than just those who were present.

The faculty of the summer session consisted of the following:—

W. A. BALDWIN,	Principal.
EDMUND F. SAWYER,	Instructor in music, State Normal School, Hyannis.
MARY E. LAING,	Formerly instructor in pedagogy, State Normal School, Oswego, N. Y.
CHARLES P. SINNOTT,	Instructor in geography, State Normal School, Bridgewater.
GERTRUDE E. BIGELOW,	Instructor in arithmetic, Boston Normal School.
THEODORE M. DILLAWAY,	Supervisor of drawing, Buffalo, N. Y.
ANNIE S. CROWELL,	Instructor in physical training, State Normal School, Hyannis.
MABEL KIMBALL BAKER,	Supervisor of industrial work, Training School, Hyannis.
EDITH S. HASKELL,	Instructor in English, State Normal School, Hyannis.
CHARLES H. MORRILL,	Instructor in manual training, State Normal School, Hyannis.
CLARENCE F. CARROLL,	Superintendent of schools, Rochester, N. Y.
CALVIN N. KENDALL,	Superintendent of schools, Indianapolis, Ind.
W. H. ELSON,	Superintendent of schools, Cleveland, O.

The following statistics may also be of interest:—

Number of students,	180
Average age (years),	29
Average years of experience,	6
Number of students graduated from college,	19
Number of students graduated from normal schools,	42
Number of students graduated from training classes,	19
Number of students graduated from high schools,	136
Number of students who had attended college,	25
Number of students who had attended normal schools,	71
Number of students working for a diploma,	76

CARROLL D. WRIGHT,
 GEORGE I. ALDRICH,
Board of Visitors.

STATE NORMAL SCHOOL, LOWELL.

CYRUS A. DURGIN, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

CYRUS A. DURGIN,	Psychology, pedagogy.
HUGH J. MOLLOY,	Chemistry, physics and arithmetic.
MABEL HILL,	History, civil government and history of education.
ANNA W. DEVEREAUX,	Kindergarten theory and practice, and child study.
-	Reading, voice training and physical culture.
-	English grammar, rhetoric and literature.
SARAH C. WHELTON,	Music.
CLARENCE M. WEED,	Nature study, gardening and physiology.
NANCY M. BRAGG,	Geography, algebra, geometry and manual training.
JOSEPHINE W. CHUTE,	Drawing and manual training.
MARGARET CANFIELD,	Secretary and librarian.

BARTLETT TRAINING SCHOOL, LOWELL, MASS.

HERBERT D. BIXBY,	Principal.
BELLE A. PRESCOTT,	Ninth grade, reading, supervisor of practice.
CHARLOTTE M. MURKLAND,	Eighth grade, grammar, supervisor of practice.
BLANCHE A. CHENEY,	Eighth grade, history, supervisor of practice.
AMY L. TUCKE,	Seventh grade, arithmetic, supervisor of practice.
FRANCES CLARK,	Seventh grade, geography, supervisor of practice.
BELLE F. BATCHELDER,	Sixth grade.
MARY E. WALSH,	Sixth grade.
MARIA W. ROBERTS,	Fifth grade.
KATHERINE F. FARLEY,	Fifth grade.
ALICE D. SUNBURY,	Fourth grade.
CAROLINE H. MCGARVEY,	Fourth grade.
BRIDGET K. SMITH,	Third grade.
SARA E. AMES,	Second grade.
A. GERTRUDE STILES,	Second grade.
ESSIE E. ROCHE,	First grade.
E. BELLE PERHAM,	First grade.
HELEN W. NOYES,	Kindergarten, Principal.
EDITH A. ANDREWS,	Kindergarten, Assistant.

GILBERT E. HOOD TRAINING SCHOOL, LAWRENCE, MASS.

LEILA M. LAMPREY,	Principal.
ELLA F. EASTMAN,	Fifth and sixth grades.
ANNIE L. O'CONNOR,	Third and fourth grades.
EMMA J. GREENWOOD,	First and second grades.
MARY E. MAHONEY,	Music.
ANNIE T. MCCARTHY,	Drawing.
HARRIET A. MCKONE,	Seventh grade.
NELLIE S. WINCHESTER,	Seventh grade.

H. FRANCES McDONNELL,	Sixth grade.
MARY A. MAHONEY,	Sixth grade.
GRACE I. CONLIN,	Sixth grade.
MABEL L. MULLEN,	Fifth grade.
LAURA K. PRESCOTT,	Fourth grade.
E. MABEL ANDREWS,	Fourth grade.
ELLEN C. TOBIN,	Third grade.
ETHEL C. RAMSAY,	Third grade.
ADA B. LOCKE,	First grade.

RURAL TRAINING SCHOOL, NORTH TEWKSBURY.

TIRZAH S. MORSE, Principal.

FRANK F. COBURN.

On the eleventh day of February, 1908, Mr. Frank F. Coburn, for nearly eleven years the honored head of the school, entered into rest, after a long and wearisome illness.

It is not the fortune of many to have lived and worked with such a man as Mr. Coburn. To have known him as a man is to have acquired a respect for real manhood; to have known him as a teacher is to feel increasingly the inspiration of the calling which he adorned for so many years; to have known him as a friend is to hold dear in remembrance all that real comradeship means. He was a great executive, clear sighted and judicial, a strong teacher, a "school man" of excellence and ability. His calmness of speech and poise of manner were but the outward semblance of the serenity of spirit which characterized his whole life. At no time during the long years of martyrdom did he allow his infirmity to enter into the life of another. A cheery word and a pleasant smile greeted one always upon his threshold. His native city is better for his having lived in it, the normal school will always bear the impress of his personality, and in his untimely departure, the city, the State and the cause for which he labored have lost alike a splendid, honorable citizen, an inspiring teacher, and a refined, noble-spirited man.

THE FACULTY.

In April of the present year Mr. Cyrus A. Durgin, for ten years the head of the Bartlett Training School, was elected by the Board of Education to succeed the late Mr. Coburn

as principal of the normal school. He brings with him to the new position an intimate knowledge of the school from its organization down to the present time, and, as a valuable asset, a long experience in training school work.

During the year the school has lost the services of two of its valued teachers. In September Miss Mary Hussey was obliged to retire, on account of ill health; and a few weeks later Miss Mabel C. Bragg resigned, to accept a much more lucrative position elsewhere. Both teachers have contributed much to the growth of the school, and their retirement is a distinct loss. At the time of writing, the vacancies have not been filled.

By vote of the Board, Miss Margaret Teague has been doing temporary work during the present term, in the department of physical culture.

In September, 1908, Mr. Herbert D. Bixby, master of the Edmund J. Shattuck School of Norwood, Mass., was elected by the Board of Education to the principalship of the Bartlett Training School. Mr. Bixby was graduated from Tufts College, and later from the Lowell Normal School, and is especially well qualified to carry on the work of the training school.

In June, 1908, Miss Mary C. Ladd, teacher of the first grade in the training school, resigned to be married; and Miss E. Belle Perham, for a number of years principal of the kindergarten, was appointed to fill the vacancy; while Miss Helen W. Noyes, principal of one of the city kindergartens, succeeded Miss Perham.

Notwithstanding the numerous changes in the teaching force the school is in fine condition, and everything promises well for a pleasant and profitable school year.

In the Gilbert E. Hood Training School, in Lawrence, Miss Lamprey and her assistants are doing the same excellent work which has always characterized the school.

The faculty and students have never been more in earnest to promote the best interests of the school, and it is not too much to expect that their efforts will meet with a generous share of success.

RURAL SCHOOL.

The ungraded school at North Tewksbury, under the charge of Miss Tirzah Morse, is already an efficient factor in our train-

ing system, and is furnishing much valuable experience for the students, especially for those whose earlier school experiences have been obtained in city schools.

INDUSTRIAL TRAINING.

Along these lines much advance has been made. Mr. Weed has extended the gardening work in both the normal and the training schools. New gardens have been planted on the grounds back of the school, each student having been allotted a certain area for cultivation. Inside gardening is being carried on extensively in both the normal and training schools. The Bartlett school boasts of a very good "nursery," and the children are preparing, during the winter months, for extensive home gardens in the spring and summer. A "cold frame" is one of the possibilities of the near future.

Much attention is being given to working in brass by Miss Chute, and the results are both artistic and practical.

In the training schools, manual and industrial training are being taught from the third to the seventh grade, and it is hoped to increase the extent of this work by the introduction of sewing into the seventh, and cooking into the eighth and ninth grades, with bench work for the boys of those grades. All of this work is under the direction of Miss Nancy Bragg.

LECTURES.

Lectures have been given during the year by Mr. Henry T. Bailey and Mr. Frederic L. Burnham.

The graduating address was given by Rev. Thomas I. Gasson, S. J., President of Boston College.

ALUMNI ASSOCIATION.

The alumni association continues to grow in numbers and enthusiasm. In fact, the attendance was so large last May as to necessitate the use of the main study hall, in order that all might be seated. The annual meeting has become one of the "red-letter" events of the year.

GIFTS.

The graduating class presented the school with a large photoenlargement of the late principal, Mr. Frank F. Coburn.

IMPERATIVE NEEDS.

Under this heading it seems proper to quote from last year's report: —

With the beginning of the eleventh year it is hoped that a special appropriation will be made for the interior of the building. The walls and ceilings have never been colored, and as time has gone on, the ravages of wear and tear have left their marks upon every room."

This is still true, — with one more year's "wear and tear" to be added.

The woodwork on the outside of the building is in very bad condition, where "wind and weather" have done their work only too well. It should be painted at once.

The school has never possessed a flag pole. One should be purchased, and erected upon the grounds early in the spring.

STATISTICS.

1. Number of students for year, 144.
2. Number in entering class: junior, 79.
3. Number of graduates for the year, 65.
4. Total number of graduates, 603.
5. Whole number of students admitted since the opening of school, 941.
6. Average age of pupils admitted, 17 years, 7 months.
7. Of the entering class, Middlesex County is represented by 8 towns, Essex County by 3 towns, Lowell furnishes 23 pupils; Lawrence, 29; Chelmsford, 5; Woburn, 4; Methuen, 4; Somerville, 3; Groveland, 3; Billerica, 2; Reading, Bradford, Westford, Manchester, N. H., Salem, N. H., Concord, N. H., 1 each.
8. Occupation of pupils' fathers: merchants, 12; farmers, 6; operatives, 6; foremen, 5; clerks, 4; carpenters, 4; machinists, 4; firemen, 3; agents, 2; bakers, 2; forester, janitor, florist, motorman, mason, conductor, currier, gunsmith, millwright, editor, detective, paymaster, painter, iron moulder, granite cutter, watchman, horseshoer, each 1; deceased, 14; total, 79.

THOMAS B. FITZPATRICK,
KATE GANNETT WELLS,
Board of Visitors.

STATE NORMAL SCHOOL, NORTH ADAMS.

FRANK FULLER MURDOCK, PRINCIPAL.

INSTRUCTORS IN THE NORMAL DEPARTMENT.

FRANK F. MURDOCK,	Psychology, pedagogy.
ROLAND W. GUSS,	Natural science.
WILLIS B. ANTHONY,	Industrial training.
ARCHER C. BOWEN,	History, geography.
FLOYD B. JENKS,	Agriculture.
MARY A. PEARSON,	Drawing.
ROSA E. SEARLE,	Mathematics, music.
ANNIE C. SKEELE,	Physiology, physical culture.
MARY L. BARIGHT,	English, reading.
HELEN V. SCHUYLER,	Domestic arts.
MARION R. SMITH,	Musical interpretation.

MARK HOPKINS TRAINING SCHOOL.

Instructors in the Grammar and Primary Departments.

DONNA D. COUCH,	Principal.
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School organization and management in the normal department.

AMALIE KNOBEL,	Ninth grade.
ADDIE M. AYER,	Eighth grade.
FLORENCE W. RAGUSE,	Seventh and eighth grades.
ROSE G. O'NEILL,	Seventh grade.
E. IDELLA HASKINS,	Sixth grade.
ETHEL M. PLUMB,	Sixth grade.
EMILY D. STACY,	Fifth grade.
FREELove CLARK,	Fourth grade.
AGNES E. WALKER,	Fourth grade.
SUSAN G. LOMBARD,	Third grade.
IDA R. CHAPIN,	Third grade.
EMMA H. TINGUE,	Second grade.
EDITH A. ROOT,	Second grade.
ANNIE J. LAMPHIER,	First grade.
ELVA L. BROWNSON,	First grade.

Instructors in the Kindergarten Department.

ELIZA GREAME GRAVES,	Principal.
JENNY M. BUSHNELL,	Assistant.

BRIGGSVILLE RURAL TRAINING SCHOOL.

HANNAH P. WATERMAN,	Principal, grammar department.
NELLA H. COLE,	Primary department.

BROAD BROOK RURAL TRAINING SCHOOL.

BESSIE W. NICHOLS,	Principal, grammar department.
ANNA R. CAMPBELL,	Primary department.

TEACHERS.

From the opening of the school, Feb. 1, 1907, to Dec. 1, 1908, 94 different persons have been members of the faculty. Forty-three teachers who gave instruction to normal students withdrew, 12 marrying, 22 accepting positions as instructors in other normal schools as supervisors, as principals of training or large elementary schools, or other positions of larger opportunities, and 9 resigning on account of health conditions of self or family. Nineteen teachers who had charge of classes of children only in the training schools withdrew, 5 marrying and 14 securing positions of more responsibility and remuneration.

Of 94 members of the faculty from the beginning, 35 are graduates and 3 hold certificates of this school; 14 were assistants to other teachers, 10 had independent charge of classes of children and 14 advanced to the professional instruction of students in practice teaching.

The faculty at present numbers 32, of whom 10 are responsible for professional theory of subjects, 16 for professional practice with children and 6 for classes of children only. Ten graduates of the school are members of the faculty, 6 of them having come, after ample experience in other schools, to full charge of classes at the training school. The use of the training schools to prepare graduate teachers rapidly and thoroughly for positions of larger responsibility and higher remuneration is no small factor in the success of the institution.

INDUSTRIAL COURSES.

Educational officials and the general public have made very numerous and hearty commendations of the industrial training given the students and children. Every student receives definite practical instruction in sanitation, cooking, sewing and the various other forms of manual training. Special courses are offered to prepare teachers of these industrial arts in elementary schools. In the training schools the work of the children in sewing, cooking, sanitation, wood and metal working, basketry, printing, etc., is opportunely used by the students. To them result more lifelike acquaintance with children's interests and

abilities, truer valuation of the relative worth of hand and book work, keener insight into present-day problems of home life, more practical ideals and greater facility in personal adaptation.

During the past season the planting of the school and home gardens was under the general direction of Mr. R. W. Guss, in charge of the science department. The individual gardens, 5 by 15 feet, of the normal students were made and cared for in the usual way. They were highly productive of experience and knowledge; they furnished summer food, fall flowers, products for exhibition, plants for fall and winter use, and a never-failing source of delight to every passer-by.

At the Mark Hopkins training school the children of grade 4 made sixteen grass gardens, each 10 by 20 feet, planting wheat, rye, oats, barley, millet, blue grass, buckwheat, timothy, red top, orchard grass, alfalfa, red clover, white clover, alsike clover and field corn, Dent and Flint. Autumn lessons included the field study of the standing crops, of harvesting, of individual grains; the uses of seed and stalk; the annual or perennial duration of life. In the schoolroom, processes were measured by arithmetic, extended by geography and appropriately expressed by the language arts. Grades 5 and 6 conducted individual gardens, growing vegetables and flowers. Harvesting and the selection of seed were emphasized in the autumn lessons. The kindergarten children planted as usual, and their early lessons in reading as members of grade 1 were based on their spring and fall experience in the gardens.

At the Broad Brook training school the grammar class (fourth, fifth, and sixth grades), with slight assistance, made ready and planted two bulb beds and induced the purchase of nearly five hundred bulbs by the people of the district. They also made and fenced in a flower garden, 6 by 20 feet, the sod being turned by a neighbor. The grounds at this school are now being graded. The active, living interest of the teachers in the pupils and parents, by means of the industrial work, has brought about the social result desired, and made very clear the duties of a normal school as to preparing teachers to meet the communal needs.

At the Briggsville training school, situated in a small mill

village which in turn is set in a farming district, the teachers have likewise lived with the children and parents and neighbors in friendly companionship, and to their efforts for the most part are due the noteworthy successes of that school. The children of the grammar class (fourth to eighth grades, inclusive), after the front portion of the school yard had been plowed and soil dumped, graded the surface, sowed grass seed, dug the pathways and filled them with ashes. They set and used a cold frame of three sashes, planted a flower garden of about 1,000 square feet, and a potato and corn plot 30 by 80 feet. Corn and potatoes were sold to the amount of \$4.15. During this autumn, under the supervision of Mr. F. B. Jenks, the children have accomplished the grading of a steep and very stony terrace 250 feet long and a driveway 30 feet long. By entertainments given by the children and by sale of garden products, money was raised sufficient to pay for the labor of two men on the terraces and to provide seed for the coming season. The boys assisted in laying the wall and surfaced the terrace and driveway. This outdoor work at this school has been for the most part "honor" work, in order to make the introduction of industrial training most profitable and acceptable in a community comprised of mill workers and farmers. Pupils were obliged to earn the privilege of working outdoors by preparing their indoor lessons well in less than the time assigned. The presence of a child at work outdoors was a sign of "honor" work indoors.

In the same way cooking was established as a school exercise. Several girls asked if they could cook, and gave strong reasons for the case. It was assented to, and a two-burner kerosene stove which was in stock was furnished from the normal school for the experiment. The girls then asked for utensils, and none being furnished, they were collected from their several families. Requests for food material were not granted, and the girls procured their own. By this time the insistence of two boys won their admittance to the group. Biscuits were attempted, under the general direction of the regular teacher, and with highly successful results. Mothers had declined to furnish a receipt, but after the successful lesson sent for the teacher's receipt. The efforts of the older group

stimulated the girls of the fifth and sixth grades to the formation of a second group, which has been highly successful, under the direction of an older pupil. The school cooking is at present usually a noon-intermission exercise. Already home cooking by the pupils is an expected duty in some families. Sewing has been in vogue for a year, and is equally valuable.

The remarkable results: (1) the attitude toward and the skill of the children in industrial work; (2) the improvement and the appreciation of book knowledge; (3) the hearty, outspoken approval of the community, especially of some prominent citizens who had looked askance at the work; (4) the improvement in public spirit and the active co-operative effort of parents and neighbors; (5) the practical inspirational effect upon the normal school aims and methods.

AGRICULTURAL EDUCATION.

The agricultural department has started well. The city of North Adams granted for ten years the free use of nearly two acres of land, and Mr. H. G. B. Fisher, as administrator, granted the restricted use of one-half an acre adjoining, all of this land lying between the two school buildings. Most of this land had been used for a dumping ground, but by severe labor it has been reclaimed, and substantial harvests were gathered this fall. The gardens of the children and students will be plotted in the new area, and the former beds will be grassed or used for experiment plots.

Arrangements have been completed with the Massachusetts Agricultural College at Amherst for a joint effort in the preparation of teachers and supervisors of school gardening and agriculture. The college employs an assistant professor in the department of agricultural education, and assigns him for service at the normal school during the spring and autumn. In pursuance of this plan, Mr. F. B. Jenks spent the three autumn months at North Adams, and took full charge of all outdoor work. Children, students and teachers have received his personal instruction. Parents, committees and other officials have been interviewed and addressed at institutes. The grading of the grounds at the rural training schools, the reclamation and laying out of the new tract beside the normal school, the practice

of field study of ripened crops, and the extension of nature study to its practical aspects, are among his prominent successes. A more definite and useful relation to the public schools was made by furnishing from the coleus and geranium plants on the normal grounds branches sufficient for several thousand cuttings.

The greenhouse is now in operation. Plants are grown for use in the various schools, for decoration of the grounds and for spring planting, though in no case is the growing of plants in the schoolrooms omitted by students or children. The greenhouse will pay for itself in less than four years.

Course in School and Home Gardening. — Nature Study.

This course is arranged to prepare departmental teachers of school and home gardening and nature study in grades preceding the high school.

The length of time required to complete this course depends on the scholarship and previous teaching experience of the candidate. A graduate of a first-grade high school, who has had no experience in teaching, will require three years usually to do the work; a graduate of a Massachusetts normal school, if without experience in teaching, will require one year. The time required by college graduates and by teachers of recognized ability will be determined by individual considerations.

Course in Agriculture and Horticulture. — Nature Study.

This course is arranged to prepare departmental instructors for all grades of public schools (including the high), and supervisors of the work in districts, towns or cities.

Four years will be required ordinarily to complete the course. Graduates of normal schools will require two years of additional work, much of which will be done at the college. For college students this course will be a constituent part of their educational course, and much of the pedagogical work will be done at the normal school. Graduates of colleges can take elective courses, the time required being determined by their respective qualifications.

EXTENSION WORK.

A new opportunity to participate in social service was made known to us by Mr. J. E. Warren, agent of the Board of Education, and immediately taken. In the town of New Ashford there is only one school, and this of such a character as to need encouragement through new forms of effort. Fortunately, the pecuniary aid furnished by the State is sufficient to make success possible. The teacher, Miss McBain, spends two or three days several times a month participating in the industrial and other work at the training school; normal teachers participate in community meetings and co-operate in the school work; the superintendent, F. B. Van Ornum, promotes the enterprise most heartily; and a new school is arising upon an industrial basis. Cooking, sewing and other indoor forms of manual work are in operation. Plans for school gardening are in process. Already citizens have made offers of pecuniary and labor assistance. It is known that other similar cases will occur within a short time, and the school is already providing for these opportunities.

ENTERING CLASS.

Eighty-one new students joined the school in September, necessitating a very large and serious withdrawal of the normal teachers from work with the grades; and if the attendance continues to increase, new teachers will be necessary in September, 1909.

STATISTICS.

Statistics for the year ending Aug. 31, 1908, are as follows:—

1. Number admitted in September, 1907: regular courses, 48; special courses, 4; vacation study, 17,—all women. Whole number enrolled during the year, 100. Number of graduates, 22.

2. Average age of entering class, 19 years, 6 months.

3. Whole number of students who have been members of the school, 632.

4. Number of students from Massachusetts: Berkshire County, 59; Franklin County, 18; Hampshire County, 10; Hampden County, 1; Middlesex County, 1; Worcester County, 2; Connecticut, 2; New York, 2; Vermont, 4; Maine, 1. Cities and towns represented: Massachusetts, 35; scattering, 6.

5. Occupation of parents: farmers, 27; superintendents and foremen, 6; grocers, 3; laborers, 2; carpenters, 4; furniture dealers, 2; merchants, 3; livery stable proprietor, high school principal, piano agent, inspector of cloth, jeweler, wholesale grocer, engineer, lumberman, insurance agent, barber, gas business, janitor, loom fixer, boiler maker, trainman, color mixer, cattle dealer, clergyman, chair manufacturer, doctor, gardener, bricklayer, painter, plumber, railroad agent, millwright, fireman, boiler tender, geologist, accountant, bookkeeper, each 1; unknown, 2; deceased, 20.

FRANK F. MURDOCK,

Principal.

STATE NORMAL SCHOOL, SALEM.

J. ASBURY PITMAN, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

JOSEPH ASBURY PITMAN,	Theory and practice of teaching, history of education.
HARRIET LAURA MARTIN,	Algebra, geometry, Latin.
JESSIE PUTNAM LEAROYD, ¹	English, ² gardening.
CHARLES EUGENE ADAMS, ¹	Geology, physics, chemistry.
CHARLES FREDERICK WHITNEY, ¹	Manual arts.
MARY ALICE WARREN, ¹	Nature study, physiology, physical training.
GERTRUDE BROWN GOLDSMITH, A.B.,	Biology, psychology.
FRANCES BOUTELLE DEANE, ¹	History, English, librarian.
HELEN HOOD ROGERS, ¹	Reading, physical training.
CASSIE LUCRETIA PAINE,	Supervisor of training.
FRED WILLIS ARCHIBALD, ¹	Music.
HARRIET EMMA PEET, ¹	Literature, arithmetic.
SUMNER WEBSTER CUSHING, S.B., ¹	Geology, geography, commercial geography.
FREDERICK WALTER RIED, ¹	Manual training.
ARTHUR JOHN MEREDITH, Ph.B.,	Bookkeeping, commercial law, commercial arithmetic, penmanship.
MARY LOUISE SMITH, A.B.,	Stenography, typewriting, commercial correspondence.
LOUISE CAROLINE WELLMAN,	Secretary, typewriting.

INSTRUCTORS IN THE PRACTICE SCHOOLS.

ALTON C. CHURBUCK, Principal.

The Practice School.

ALTON CLIFFORD CHURBUCK,	Eighth grade.
MAUDE SARAH WHEELER,	Seventh grade.
MARJORIE HUSE,	Sixth grade.
BESSIE JORDAN WELCH,	Fifth grade.
MABEL LUCILE HOBBS, ³	Fourth grade.
MARY ELIZABETH JAMES,	Third grade.
DELIA FRANCES CAMPBELL,	Second grade.
HELEN MERRILL DILLINGHAM,	First grade.
LOUISE FARRINGTON,	Kindergarten.

The Bertram School.

SUSAN ELLEN ROPES,	Second grade.
MILDRED MAY MOSES,	First grade.
ALICE MARTHA WYMAN,	Kindergarten.

The Farms School.

BERTINA DYER, Ungraded.

¹ These instructors also teach and supervise in the practice school.² Including the English of the commercial department.³ Absent on leave. Substitute, Sallimae Morrill Dennett.

CHANGES IN THE FACULTY.

The following changes in the faculty have occurred during the year:—

Mr. William C. Moore, instructor in geography, who had been absent on leave for the purpose of post-graduate study, resigned to become professor of education at Mount Holyoke College. He was succeeded by Mr. Sumner W. Cushing, his substitute during his absence. Mr. Cushing is a graduate of the Bridgewater Normal School and of Harvard College. He has also studied at Brown University and has pursued the study of his special subject abroad.

Mr. Charles E. Newell, instructor in manual training, has accepted the position of supervisor of drawing at Springfield; and Mr. Frederick W. Ried, formerly teacher of manual arts at Lancaster and Leominster, has been chosen to succeed him. Mr. Ried is a graduate of the Normal Art School.

Mr. Arthur J. Meredith, of the Atlantic City high school, has been placed at the head of the commercial department. Mr. Meredith is a graduate of Wesleyan University and of Comer's Commercial School. He has also pursued pedagogical courses at Harvard University.

Miss Mary L. Smith, of the Ithaca high school, has been chosen to give the instruction in stenography and typewriting. She is a graduate of the State Normal University at Ypsilanti, Mich., and of the University of Michigan.

Miss Bertina Dyer, a graduate of the Bridgewater Normal School, has been placed in charge of the model rural school. She brings to the work the successful experience of several years in schools of a similar character and in the Perkins Institution for the Blind.

Miss Mildred M. Moses, of the Morse School, Somerville, has been appointed to teach in the first grade in the Bertram School. Her professional training was received under the direction of the Chicago Kindergarten Association.

Miss Mabel L. Hobbs, of the fourth grade in the practice school, is absent on leave and is taking an advanced course of study at the Teachers' College. Miss Sallimae M. Dennett, a graduate of this school and recently a teacher at Jacob Tome Institute, has been engaged as substitute for the year.

THE RURAL SCHOOL.

In April, arrangements were carried into effect for the joint maintenance of the Farms School, in Marblehead, as a model ungraded school. The school is ideal in its location and in its environment, the building is modern, and the membership is such as to make it a typical rural school. At present there are 40 pupils, corresponding in their ages to the children in the first six classes in the graded schools of the town. Each member of the senior class in the normal school is expected to spend one week in observation and practice in this school. This experience is valuable to all, but especially so to those to whom conditions in rural schools are wholly unfamiliar, and whose professional work will begin in schools of similar character.

THE COMMERCIAL DEPARTMENT.

The most important event of the year has been the establishment of a department for the training of teachers of commercial branches.

The equipment is such as to combine the atmosphere of the business office with that of the school. The instructors who have been selected to direct the work of this department have had the benefit of both college and professional training and of experience in business offices. The regular course of instruction covers a period of two years, and includes all the subjects usually taught in commercial schools and commercial departments of high schools, as well as courses in psychology, pedagogy and history of education. The course also includes, either as elective or as required subjects, some instruction in common with students in the regular elementary course. A special elective course of one year is open to advanced students.

Through an arrangement with the Salem Commercial School, opportunity is here afforded for observation; and the school committee of the city of Salem has permitted the use of the commercial department of the high school for both observation and practice in teaching. These privileges have been granted without expense to the State.

The opening of this department has been met with a most gratifying response. There are now enrolled 62 students, 40 of whom are pursuing the full course. The membership in the

advanced course includes graduates of colleges and normal schools and of private commercial schools, many of whom have had experience in business offices or as teachers in elementary and high schools.

LECTURES AND ENTERTAINMENTS.

The following lectures and musical entertainments have been important contributions to the general course of instruction:—

The Rural School, — Hon. Payson Smith.

Beethoven Program, — Miss Pearl Brice, violinist; Miss Myra Winslow, pianist.

Abraham Lincoln, — Rev. Alexander Blackburn, D.D.

The Use and the Abuse of the Ideal, — Mr. E. Harlow Russell.

Annual Concert, — The Glee Club.

The Function of the School in Training for Right Conduct, — Margaret E. Schallenberger.

Japan and the Japanese, — Prof. Edward S. Morse.

Household Arts of Japan, — Prof. Edward S. Morse.

The Rural School, — Mr. Grenville T. Fletcher.

Interpretative Reading: The Rivals, — Mr. Henry Lawrence Southwick.

Memorial Day Address, — James H. Wolff, Esq.

Graduation Address: The Training of Purpose, — Mr. Joseph Lee.

Music and Verse in the Public School, — Mrs. Jessie L. Gaynor; Mrs. Alice C. D. Riley.

Illustrative Sketching, — Mr. Frederic L. Burnham.

Loyalty, — Mrs. Ella Lyman Cabot.

ACKNOWLEDGMENTS.

The following gifts to the school are gratefully acknowledged: valuable books, from Dr. James L. Hill and Mr. Frederick W. Ried; copper jardiniere, stand and plant, from the junior class of 1907-08; an imported photograph of the Laocoön group, from Hon. Robert S. Rantoul; and five photogravures, — Hope, by Burne-Jones; The Passage, by Corot; A Halt in the Desert, by Schreyer; The Temple of Castor and Pollux; The Parthenon, — for the principal's office, from the class of 1908.

IMPROVEMENT OF THE GROUNDS.

Under the direction of a landscape architect, the improvement of the grounds has been carried steadily forward, as funds

would permit, until the work is now practically complete. The result is not only to the advantage of all directly connected with the school, but is a source of satisfaction to the residents of that part of the city in which the school is located. The architect's plan included suitable provisions for a large and well-equipped playground. The equipment, including simple apparatus for an out-door gymnasium, has afforded the motive for much of the work in manual training performed by the boys of the eighth grade in the practice school during the past year.

DR. RICHARD EDWARDS.

Dr. Richard Edwards, principal of the school from its opening in 1854 until September, 1857, passed away at his home in Bloomington, Ill., March 7, 1908. As founder of the St. Louis Normal School, in 1857, principal of the Illinois State Normal University, 1857-62, and State Superintendent of Public Instruction in Illinois, 1887-91, he rendered conspicuous service to the cause of education in the west. His interest in this school was life-long, and his presence and words at the semicentennial celebration, in 1904, were an inspiration to his listeners.

STATISTICS.

1. The whole number of students in attendance for the year ending July 1, 1908, was 170. Of these, 94 came from Essex County, 64 from Middlesex County, 3 from Suffolk County, 1 from Barnstable County. From the State of New Hampshire there were 5; from Vermont, 2; from Maine, 1. Since the school was established in 1854 there have been 5,531 students enrolled, of whom 2,992 have been graduated from regular courses, and 51 have received certificates for work done as special students. For the full period of fifty-four years, 55 per cent. of those who entered have received diplomas or certificates, and 85.7 per cent. of those entering during the past three years have successfully completed their courses.

2. The number of new students admitted to the school during the year was 90, of whom 4 were special students. Among them there were 9 who had had experience in teaching. Of the new students, 16 came from Cambridge; 13 from Salem; 7 from Malden; 5 each from Peabody, Lynn and Beverly; 3 each from Newburyport, Amesbury, Melrose and Danvers; 2 each from Reading, Somerville, Revere, Swampscott and Everett; 1 each from Wakefield, Chelsea, Gloucester, Topsfield, Pigeon Cove, Hamilton, Haverhill, Ipswich, Medford, Grove-

land, Rockport and Andover. There were also 3 from New Hampshire and 2 from Vermont. The average age of the members of the junior class at the opening of the school year was 18.6 years.

3. The occupations of the fathers of the new students were as follows: mechanics, 10; manufacturers, 8; superintendents and foremen, 7; clerks, plumbers, carpenters, 6 each; farmers, merchants, 5 each; contractors, laborers, 4 each; salesmen, blacksmiths, 2 each; lawyers, teachers, clergymen, artists, engineers, engine dispatchers, gardeners, engravers, barbers, assessors, painters, printers, bakers, 1 each; retired, 1; not living, 10; unknown, 1.

4. The number of graduates June 23, 1908, was 60, and 3 candidates received certificates for the completion of a year's special work.

ELLA LYMAN CABOT,
J. D. MILLER,

Board of Visitors.

STATE NORMAL SCHOOL, WESTFIELD.

CLARENCE A. BRODEUR, PRINCIPAL.

INSTRUCTORS IN THE NORMAL SCHOOL.

CLARENCE A. BRODEUR,	Pedagogy, school law, school management.
LEWIS B. ALLYN,	Mathematics, chemistry, physics.
EDITH L. CUMMINGS,	Gymnastics, manual training.
FREDERIC GOODWIN,	Vocal music.
JOHN C. HOCKENBERRY,	Psychology, history of education, geography.
MRS. ADELINE A. KNIGHT,	English, literature, history.
LOUIS G. MONTÉ,	Drawing.
CHARLES B. WILSON,	Natural science.

TRAINING SCHOOL.

GEORGE W. WINSLOW,	Principal.
A. ANNETTE FOX,	Eighth grade.
ALICE M. WINSLOW,	Eighth grade.
ANNA M. DOWNEY,	Seventh grade.
CLARA L. BUSH,	Seventh grade.
LUCIA A. COLEMAN,	Sixth grade.
ELLA J. DOWNEY,	Sixth grade.
MAY J. GROUT,	Fifth grade.
EDITH M. ROBBINS,	Fifth grade.
ELIZA CONVERSE,	Fourth grade.
FRANCES L. FOSTER,	Third grade.
FLORENCE P. AXTELLE,	Second grade.
EUNICE M. BEEBE,	First grade.
EMMA L. HAMMOND,	Kindergarten.

CHANGES IN FACULTY.

The annual report of the Board of Visitors records with deep regret the resignation of Mr. Will S. Monroe, for twelve years head of the department of psychology. Mr. Monroe is a graduate of Stanford University, has studied at Leipzig and Jena, as well as in the universities of Paris and Grenoble. In addition to this formal preparation, he is a close student of educational movements and tendencies. As an author of several important scholarly, professional and literary books, he has increased the fame of the school. His students have been led to read widely, to use books intelligently and to present the results of investigation effectively. His departure from this Commonwealth is a distinct loss to the educational life of New

England, for which the good fortune of the Montclair (N. J.) Normal School will be scant compensation.

Previous to Mr. Monroe's departure, an effort was made to express the appreciation and esteem of co-workers and friends. On November 7 he was given a complimentary dinner in Boston, at which a notable company did him honor. On November 13 a farewell reception in his honor was held at the normal school. Five hundred guests from Westfield and surrounding towns were present.

Mr. Monroe's place on the faculty has been taken by Mr. John Coulter Hockenberry, a graduate of the California (Pa.) Normal School, the West Chester (Pa.) Normal School, Indiana University, and a Doctor of Philosophy from the University of Pennsylvania. Mr. Hockenberry has spent a year in study in Germany and France, and has recently published a work on "Rural Schools in the United States." He comes to Westfield from the department of psychology in the State Normal School of California, Pa.

At the end of the summer vacation the faculty of the training school was changed. Miss Mary G. Shea, teacher in grade 5, resigned, and her place was filled by the election of Miss May T. Grout, a student in Smith College for two years and a graduate of the Bridgewater Normal School; and Miss Metta D. Bradstreet, departmental teacher of drawing, was succeeded by Miss Clara L. Bush, a graduate of this school.

IMPROVEMENTS.

During the past year the electrical wiring and equipment of the normal school building has been completed. This work was begun four years ago. It has cost upwards of \$2,000, and has been paid for from the general appropriation for the school.

Through the generosity of the last Legislature, a special appropriation of \$5,000 was granted and has been used to decorate the walls of the three buildings which comprise the equipment. With the exception of the third floor of the training school building, the walls have been painted in suitable harmonious colors. The work was done by day labor and under the direction of Mr. Louis G. Monté, teacher of drawing in the normal school.

The assembly hall has been beautified not only by the attractive coloring of the walls, but by the addition of many pictures, reproductions of great masterpieces.

LECTURES, ETC.

The following lectures and concerts have been given:—

- Indian Musicale, arranged by Messrs. Will S. Monroe and Frederic Goodwin; illustrative selections by Mr. and Mrs. Frederic Goodwin, Miss Louise Arnold; violin solos by Miss Laura Jones, with Miss Mary Steele, accompanist.
- The Parthenon,—an illustrated lecture by Prof. Alfred Vance Churchill, Smith College.
- Diseases of the Schoolroom,—a lecture by Dr. A. Y. Schoonmaker, chairman Board of Health, Westfield.
- Sanitary Science in the Schoolroom,—a lecture by Dr. Fred P. Lowenstein, Westfield.
- Scotch Poetry and Prose,—a series of readings in the Scotch dialect by Miss Mary F. W. Anderson and Mr. John R. Anderson of Cambridge.
- The Ring and the Book,—a lecture by Prof. Edward Howard Griggs of Montclair, N. J.
- A Plan for Moral Training for the Public Schools,—a lecture by Miss Jane Brownlee, Toledo, O.
- Through Culture to Power,—graduation address by Rev. W. C. Gordon, Auburndale, Mass.

STATISTICS.

1. Number of pupils admitted to the Westfield Normal School since its organization, 4,987. Number graduated since 1855, 2,095. Number graduated in June, 1908, 84. Number rejected or who did not enter, 13. Number entering in September, 1908, 74.

2. Average age of pupils admitted in 1908, 18 years, 5 months, 14 days.

3. Residences, by towns, of those who entered in September, 1908: Agawam, 2; Amherst, 2; Barre, 1; Brattleboro, Vt., 1; Brimfield, 1; Chester, 1; Chicopee, 1; Easthampton, 1; Enfield, 1; Gardner, 1; Hadley, 1; Holyoke, 6; Lee, 2; Monson, 2; Northbridge, 1; North Conway, N. H., 1; Norwich, Conn., 1; Palmer, Pittsfield, 1; Revere, 1; Somersworth, N. H., 1; South Windsor, Conn., 1; Springfield, 14; Springfield, Vt., 1; Ware, 3; Westerly, R. I., 1; Westfield, 17; Westminster, Vt., 1; West Springfield, 3.

4. Residences, by counties, of those who entered in September, 1908: Berkshire, 3; Hampden, 50; Hampshire, 8; Suffolk, 1; Worcester, 3.

5. Occupations of parents: city officials, 4; clerks and salesmen,

harness makers and machinists, 3 each; farmers, 10; laborers, 13; carpenters, contractors and harness makers, 2 each; merchants, 9; baker, barber, chauffeur, lawyer, manufacturer, printer, tailor, and teacher, 1 each.

A. E. WINSHIP,
CLINTON Q. RICHMOND,
Board of Visitors.

STATE NORMAL SCHOOL, WORCESTER.

E. HARLOW RUSSELL, PRINCIPAL.

INSTRUCTORS.

E. HARLOW RUSSELL,	Theory and art of teaching, reading, psychology of childhood.
REBECCA JONES,	Elementary methods, supervision of apprentices, sewing.
HELEN F. MARSH,	Music, drawing.
ARABELLA H. TUCKER (clerk),	History of education, botany, penmanship.
ANNA P. SMITH (librarian),	Mathematics, supervision of apprentices.
AMY L. BOYDEN,	Teacher of primary class, elementary methods.
HENRIETTA A. MURRAY,	Gymnastics, school games.
HORACE G. BROWN,	Literature, English grammar, history.
EDWARD L. SUMNER,	Choral singing.
ROBERT S. BALDWIN,	English, civil government, Latin.
LEE RUSSELL,	Chemistry, mineralogy, supervision of apprentices.
ROBERT M. BROWN,	Mathematics, physics, geography.
MARY A. CHARTERIS, M.D.,	Physical examiner.
J. MACE ANDRESS,	Pedagogical psychology, school hygiene.
ANNIE L. TURNER,	Kindergartner.

INTRODUCTORY.

The year covered by this report (1907-08) has been a year strictly devoted to typical normal school work, so far as the wide divergence of normal school ideals and practice in this country justifies the application of the term "typical" to the work of any one school. That the best or final means for the training of teachers for our public schools have not been fully worked out and agreed upon is sufficiently apparent in the fact of this very divergence, coupled with the confidence so often shown by those who practice widely different or even opposite methods of procedure. Our ends are the same; but as to the means and proportions of the processes by which these ends may be most effectively and economically secured there are hardly two persons in the service who are found fully to agree. Under these conditions it would seem wise to adopt a policy of management which should permit, and perhaps encourage, a degree of individuality and even a spirit of experimentation.

Such a liberal policy has long prevailed in Massachusetts, and there is much evidence that the exercise of it has helped to give distinction to her normal schools. In recent years there is less talk of making them "uniform" than was heard when the horizon of normal training was much narrower than it has since become, and when here and there a self-styled "educator" assumed to enjoy almost a monopoly of the subject. In almost every normal school of the present day may be found one or more features upon which, perhaps by way of experiment, special stress is laid. At Worcester, for example, especially in comparatively recent years, the element of practice-teaching has been much emphasized in the somewhat novel form of "apprenticeship" in the public schools of that city, with the view of placing the pupil-teacher as nearly as possible in such actual surroundings as those in which she must soon begin her independent work. This method has found favor and adoption in several other similar schools located in towns large enough to afford suitable opportunity for its employment. Mention is made of it here simply to illustrate the point that normal training has not yet reached its final stage, but is still a growing art, with an inviting future before it, and that experiments should be judged by their results, rather than by *a priori* comparison with what may have long been the practice. Education, like agriculture, is an ancient art, and, no less than agriculture, is still beset with unsolved problems; so that it has been suggested that a normal school would do well to consider itself in the light of an educational experiment station, and not as a tribunal of last appeal in all questions of the theory and practice of teaching.

EMPLOYMENT OF GRADUATES.

Of the graduates of last June a larger number than ever before had already been engaged as teachers at the time of receiving their diplomas, and by the end of the summer vacation in September many superintendents had applied to us in vain for candidates.

MANUAL TRAINING.

As intimated in our last report, the correlation of drawing and manual training in due proportion to other subjects is a

matter difficult to settle to our satisfaction. We see no way but to go on experimenting with it, under such light as observation and experience can give. With something of the fundamental principles of construction and of applied design, we can at least qualify our students to teach and illustrate the elements of the art, under the supervision of a special instructor, and prepare them to acquire further knowledge and skill whenever the demand for it shall be laid upon them.

NATURE STUDY.

The work in nature study this year took the direction of window gardening, and easily allied itself with the course in botany, to which it formed an admirable supplement or extension, while at the same time following a path of its own making. The principal aim was to transplant during the autumn specimens of the more common wild species found in our pastures, woods and meadows, and see how many could be made to adopt in-door conditions, and become, in a manner, "household pets" of the students. This had the advantage of being, necessarily, individual work, and it was also something which the students when they should become teachers could easily carry into their schools, with the effect of familiarizing children with the interest and beauty that lie in the surroundings amid which they will pass their lives. The experiment discovered great difference in the viability or aptitude of various wild plants to bear the change to domestication. Some languished and died as of homesickness, while others flourished and burst into joyous bloom. Scores of species were thus gathered, and a great multitude of specimens, in pots, pans, fern-globes, boxes, etc., adorned windows and tables throughout the building, attesting the interest felt in the experiment.

SCHOOL HYGIENE.

In view of the awakened attention to hygiene, general and special, in the community, we are giving more time to that branch than ever before, and are making the subject of chemistry directly contributory to it by experimental study of air, water, foods, combustion, etc. This course is laying a scientific foundation upon which may be intelligibly unified a great

number of the rules and maxims that must always constitute for most people what are called "the laws of health."

THE FACULTY.

Two new instructors have been added to the staff, to fill vacancies. Miss Helen L. Brown and Miss Olive Russell, after several years of faithful and acceptable service as kindergartners, resigned their positions in June, and have been succeeded by Miss Annie L. Turner of Boston, an experienced and highly successful kindergartner, who has taken hold of her work with a spirit and in a manner that promises gratifying results. Mr. J. Mace Address, who has enjoyed unusual advantages of study and training for normal school work, having taken degrees at the Michigan Normal College at Ypsilanti, at Chicago University and at Harvard University, takes the place of Dr. Frank Drew, whose resignation took effect at the end of the school year in June. The qualifications in educational theory and practice which Mr. Address brings to his work give assurance of the value that his service will bring to the normal school.

STUDENTS.

Our numbers are considerably in excess of those reported a year ago, showing a gain in attendance of more than 20 per cent., while the age, scholarship and character of the entering class appear to sustain the standard long maintained in this school. The proportion of young men is much larger than for several years past, as is also the number of candidates admitted upon high school certificates of superior scholarship.

BOARDING ACCOMMODATIONS.

The principal continues to urge upon the visitors his conviction that the future prosperity of this school, at least so far as attendance is concerned, requires adequate provision to be made for the boarding of students from a distance. Suitable boarding places in private families can no longer be found in the neighborhood of the school, and our grounds, five acres in extent, afford an eligible site for the erection of such a boarding house as those already provided for a majority of the normal schools of the State.

STATISTICS.

1. Total number of students for the year ending in June, 1908, 113. Number of graduate students in English literature (spring term), 58.

2. Number admitted in June and September, 1908, 59. Number admitted since the beginning of the school in 1874, 2,092.

3. Average age of students last admitted, 18 years, 8 months.

4. Residences of students last admitted: Worcester County, 58; New Hampshire, 1; total, 59.

5. Occupations of pupils' parents: mechanics, 23; salesmen, 7; foremen, 6; agents, 3; farmers, 2; manufacturers, 2; merchants, 2; policemen, 2; clergyman, engineer, brewer, bookkeeper, contractor, teamster, fireman, caretaker, 1 each; not employed, 1; unknown, 3; total, 59.

6. Number in the graduating class, June, 1908, 34. Number of graduates since 1876, 1,253.

7. Average age of the graduating class, June, 1908, 21 years, 3 months.

8. Library: reference books reported last year, 7,674; volumes added since, 384; total, 8,058. Text books reported last year, 8,392; volumes added since, 344; volumes discarded as worn out or out of date, 2,111; total, 6,625. Whole number of volumes now in the library, 14,683.

GEORGE I. ALDRICH,

ELLA LYMAN CABOT,

Board of Visitors.

STATE NORMAL ART SCHOOL, BOSTON.

GEORGE H. BARTLETT, PRINCIPAL.

INSTRUCTORS.

GEORGE H. BARTLETT,	Lecturer on historic ornament, instructor in the arts of lithography, the modern processes of reproduction, blackboard illustration.
ALBERT H. MUNSELL,	Drawing and painting from the antique figure and living model, composition, artistic anatomy.
EDWARD W. D. HAMILTON,	} Drawing and painting from the antique figure and living model.
ERNEST L. MAJOR,	
JOSEPH R. DECAMP,	Painting from the living model, portraiture.
ANSON K. CROSS,	Freehand drawing, light and shade.
RICHARD ANDREW,	Perspective, model drawing theory.
ETHEL G. BARTLETT,	Freehand drawing, light and shade.
MERCY A. BAILEY,	Water-color painting.
VESPER L. GEORGE,	Design.
LAURIN H. MARTIN,	Applied design, laboratory work.
GEORGE JEPSON,	Descriptive geometry, mechanical drawing and laboratory work.
CYRUS E. DALLIN,	Modeling from antique and life, composition.
ANNIE E. BLAKE,	Modeling and casting, design in the round.
RALPH E. SAWYER,	Building construction, architectural drawing and design.
ALBERT S. KENDALL,	Applied mechanics.
JOSEPH H. HAINES,	Sloyd and mechanic arts.
FREDERIC L. BURNHAM,	Supervision.
MARY G. BATCHELOR,	Teaching exercises, graded illustrative work, drawing in relation to other studies.
JOHN L. FRISBIE,	Ship draughting.

EVENING CLASSES.

The most notable advance of the school this year was its opening of evening sessions for teachers, especially for those coming from the suburbs of Boston. The demand for these classes had grown so steadily and strongly that it was deemed no longer advisable to refuse compliance with the many personal requests and petitions of kindergartners and grade teachers who desired further instruction, that they might be better fitted to meet the demands now made upon teachers of drawing, not only in relation to pictorial, constructive and mechanical work,

but also in regard to the cultivation of a love of art and beauty in their pupils.

The classes meet twice a week, Wednesday and Friday evenings, from 7 to 9 o'clock. Mr. Bartlett, as principal, has supervision of all the classes, specializing himself in blackboard drawing; Mr. Vesper L. George has the class in design; Mr. Richard Andrew and Mr. Ernest L. Major take the practice and theory of model drawing and light and shade; Mr. Jepson has charge of mechanical drawing; Mr. Albert H. Munsell will give six talks on the theory of color.

It has been necessary to limit the attendance in these classes to 100, as the current appropriation for the school does not admit of the engagement of a larger force of teachers. Each applicant has shown herself all the more zealous to learn because of the knowledge she already possessed.

AFTERNOON SESSIONS.

Permission having been received for extension of the school hours in certain branches of instruction, it is gratifying to record the fidelity of the pupils and their greater acquirements in consequence of longer hours of study, which have impaired neither health nor eyesight. The present pressure for more industrial study has brought into fuller realization the fact that all the branches taught at the Art School ever since its inception have held and still continue to hold a direct, vital relation to industries. The special significance of the term "art" is not lessened by the breadth of the term "industries."

The advanced portraiture class, under the instruction of Mr. Joseph De Camp, finds its correlative in the advanced technical instruction given by Mr. Bartlett in the various branches of the art of lithography, and of drawing for the modern processes of reproduction, by which the students can become teachers of these subjects or practise them professionally.

A MODEL SCHOOL.

The Art School greatly needs an allied school, such as obtains in other normal schools under the name of practice or model schools. The school committees of Boston and of two or three surrounding towns for several years have kindly granted per-

mission to the Normal Art School to send the pupils of its public school class to observe and assist in teaching drawing in various grammar grades. But such opportunities do not have the consecutive strength which could be developed if teachers from the Normal Art School could supervise their pupils in the actual work of teaching real children. The Art School needs the permanent appointment unto itself of some one school as its model school, in which its pupils who are to be teachers should organize and teach methods of drawing, and should arrange courses and programs of work under the supervision of the Art School instructors as their critics.

MORE ROOM.

The lack of sufficient space is painfully evident at the Art School, as proved by the partitioning off of part of the space of the main corridor on the ground floor for laboratory work. Admission has been refused to a large number of pupils fully qualified to enter the school, because it is not safe to accommodate therein more than 350, the present number of students. Shall the alternative be that of a new building, or of keeping school in the old one all day long and every day, with relays of instructors?

THE FACULTY.

The growth of the school is largely due to the wide reputation of its faculty. Nearly all its members are men and women of high repute in their various spheres of art and industries, independent of any estimate of their ability as teachers at the school. It is an honor to the school when such a sculptor as Cyrus E. Dallin is granted a year's leave of absence, that he may make studies in Paris, France, for his soldiers' monument to be erected in Syracuse, N. Y. Equal honor was it when Mr. Joseph De Camp was chosen by the Harvard Union this autumn to paint a portrait of President Roosevelt. The reflex action of such events stimulates the pupils to do their very best for such masters and for the school in which they teach, the number of purely social good times in the school decreasing as its standards for attainment advance.

PRIMARY DESIGN OF THE SCHOOL.

This, as annually set forth in its catalogue, is the training of "competent teachers." The school has steadily fulfilled this purpose. While its graduates mainly have been teachers or supervisors of various grades in the public schools of the State, there have always been those who have followed technical pursuits. Within the last few years the school has emphasized the necessity of creating teachers of teachers in both pure and applied art. As sure an impulse to creative beauty is found in mechanical and constructive work as in the rendering of portraiture or landscape. The school, conservative in holding on to what is best in the past, is modern in its application of art to present industries, the development of future needs and the furtherance of intelligent self-support. The training of students in the logical relation of art to industry is the more modern way of describing the purpose for which the school was established in 1873.

GIFTS.

From the graduating class of 1908 was received a photographic reproduction of a painting by Franz Hals, entitled "Portrait of a Gentleman."

STATISTICS.

The statistics for the school from Sept. 28, 1907, to June 18, 1908, are as follows:—

1. Total number of students, 356, — men, 53; women, 303.
2. Average age of pupils who entered for the first time, 19.5 years.
3. Graduates in June, 1908: public school course, 21; course in drawing and painting, 15; course in mechanical drawing, 7; course in modeling and design in the round, 2; course in decorative and applied design, 4; total, 49.
4. Number of students from the several counties of the State: Barnstable, 1; Berkshire, 1; Bristol, 6; Dukes, 2; Franklin, 2; Essex, 42; Hampden, 7; Hampshire, 1; Middlesex, 100; Norfolk, 20; Plymouth, 26; Suffolk, 108; Worcester, 24; total, 340. Students from other States are distributed as follows: Maine, 4; New Hampshire, 7; Vermont, 1; Canada, 1; California, 1; Indiana, 1; Connecticut, 1; total, 16. Total from other States and Massachusetts, 356.
5. Occupations of fathers of students: professions, 16; teachers, 2;

real estate and insurance, 4; contractors and builders, 6; merchants and traders, 36; manufacturers, 9; commercial business, 27; farmers, 12; mechanics, 51; other callings, 110; total, 273. Retired, 21; deceased, 62; complete total, 356.

KATE GANNETT WELLS,
THOMAS B. FITZPATRICK,
CARROLL D. WRIGHT,

Board of Visitors.

STATE NORMAL SCHOOLS.

Table showing admissions and attendance for 1908, with other normal school data.

NORMAL SCHOOLS.	TEACHERS IN NORMAL SCHOOLS.		TEACHERS IN MODEL AND PRACTICE SCHOOLS.		ADMITTED TO —		NUMBER OF DIFFERENT STUDENTS FOR 1907-1908.			ATTENDANCE DEC. 1, 1908.			Number of graduates in 1908.	Different students from the beginning.	Graduates from the beginning.
	Men.	Women.	Men.	Women.	Entering class.	Higher or special classes.	Men.	Women.	Totals.	Men.	Women.	Totals.			
Bridgewater,	7	10	1	12	105	16	28	242	270	30	225	255	105	5,998	3,921
Fitchburg,	4	9	4	20	88	5	-	177	177	-	191	191	58	816	485
Frammingham,	5	10	-	10	99	3	-	247	247	-	255	255	61	4,950	2,769
Hyannis,	3	4	1	5	12	9	7	38	45 ¹	12	34	46	18	406	219
Lowell,	3	7	4	44	79	1	-	133	133	-	143	143	65	941	603
North Adams,	5	5	-	20	70	9	-	100	100	-	125	125	22	694	336
Salem,	7	10	1	12	140	27	3	167	170	7	233	240	60	5,531	2,992
Westfield,	6	2	1	13	74	6	2	145	147	1	152	153	68	4,987	2,095
Worcester,	7	5	-	2	58	1	3	110	113	11	123	134	34	2,092	1,253
Normal Art (Boston),	16	4	-	-	82	-	53	303	356	56	278	334	49	3,534	1,421
Totals,	63	66	12	138	807	77	96	1,662	1,758	117	1,759	1,876	540	30,249	16,044

¹ In addition, summer session students, 180.



SEVENTY-SECOND ANNUAL REPORT

OF THE

SECRETARY OF THE BOARD.

SECRETARY'S REPORT.

To the Board of Education and the Legislature.

I have the honor to submit the seventy-second annual report of the secretary upon the condition and needs of the public schools of the State. In accordance with the law, the usual returns have been made by school committees to the office of the Board, and the usual abstract prepared.

SUMMARY OF STATISTICS FOR 1907-1908.

I. Number of Public Day Schools.

1. Number of towns, 321; cities, 33. Total, 354.
All have made the annual returns required by law.
2. Number of public schools based on the single class room as the unit of comparison, 11,556
Increase from the preceding year, 187

II. Average Number of Months the Public Schools have been kept.

1. Average number of months the public schools have been kept during the year, $9\frac{8}{10}$
Increase $\frac{1}{10}$
2. Average number of months the high schools have been kept during the year, $9\frac{1}{10}$
Increase, $\frac{1}{10}$

III. School Census Data.

1. Number of persons in the State Sept. 1, 1907, between the ages of seven and fourteen years: males, 195,760; females, 194,475; total, 390,235
Increase in the total, 8,530
2. Number of persons in the State Sept. 1, 1907, between the ages of five and fifteen years: males, 269,394; females, 269,260; total, 538,654
Increase in the total, 7,577

3. Number of illiterate minors in the State Sept. 1, 1907, over fourteen years of age: males, 4,825; females, 4,148; total,	8,973
Increase in the total,	1,055

IV. Public School Enrollment and Attendance Data.¹

1. Number of pupils between seven and fourteen years of age attending the public schools during the school year,	336,106
Increase,	7,010
2. Number of different pupils between five and fifteen years of age attending the public schools during the school year,	462,741
Increase,	4,013
3. Number of pupils under five years of age attending the public schools during the school year,	11,486
Decrease,	420
4. Number of pupils over fifteen years of age attending the public schools during the school year,	50,092
Increase,	1,094
5. Total enrollment of pupils of all ages in the public schools during the school year,	524,319
Increase,	4,687
6. Average membership of pupils in all the public schools during the school year,	466,214
Increase,	5,878
7. Average attendance in all the public schools during the school year,	429,394
Increase,	4,206
8. Percentage of attendance based on the average member- ship, . . . . .	.92
9. Percentage of attendance based on the total enrollment,	.82
10. Number graduated from grammar schools during the school year,	22,313
Increase,	401

V. Public School Teachers and their Wages.

1. Number of teachers required in the public schools during the year: men, 1,281; women, 13,497; total,	14,778
Increase,	329
2. Number of teachers in the public schools who have grad- uated from college: in high schools, 1,587; in the elementary schools, 447; total,	2,034
Increase,	112

¹ The enrollment and attendance data are for a school year ending practically in June, 1907.

3. Number of teachers who have graduated from normal schools,	7,448
Increase,	425
4. Average wages of male teachers per month in the public schools,	\$155 95
Increase,	\$2 93
5. Average wages of female teachers per month in the public schools,	\$59 58
Increase,	\$0 96

VI. *Public High Schools.*

1. Number of public high schools,	266
Increase,	0
2. Number of teachers in the high schools,	2,073
Increase,	187
3. Number of pupils in the high schools,	56,527
Increase,	6,590
4. Number of pupils admitted to the freshman class,	18,770
Decrease,	539
5. Number of graduates from high schools,	7,733
Increase,	133
6. Expenditures for high school support,	\$2,862,617 81
Increase,	\$157,804 78

VII. *Public Evening Schools.*

1. Number of cities and towns having public evening schools,	58
Decrease,	1
2. Number of evening schools,	284
Increase,	11
3. Number of teachers,	1,906
Increase,	63
4. Number of different pupils in attendance: males, 32,683; females, 16,778; total,	49,461
Decrease in total,	260
5. Average attendance,	26,444
Increase,	350
6. Expended upon evening schools,	\$312,520 93
Decrease,	\$2,734 14

VIII. *Public Kindergartens.*

1. Number of cities and towns having public kindergartens,	39
Increase,	1
2. Number of public kindergartens,	309
Increase,	12
3. Number of teachers,	540
Increase,	18

3. Average <i>taxation</i> cost of the public schools for <i>support</i> and <i>buildings</i> , that is, for all school purposes (XI., 3), for each child in the State between the ages of five and fifteen years (III., 2),	\$33 17
Increase,	\$1 45
4. Average <i>taxation</i> cost of the public schools for <i>support</i> and <i>buildings</i> , that is, for all school purposes (XI., 3), for each child in the average membership of the public schools (IV., 6),	\$38 32
Increase,	\$1 72
5. Average expenditure on account of the public schools for <i>support</i> and <i>buildings</i> , including <i>voluntary contributions</i> as well as money raised by <i>taxation</i> (XI., 1), for each child in the State between five and fifteen years of age (III., 2),	\$34 37
Increase,	\$0 93
6. Average expenditure on account of public schools for <i>support</i> and <i>buildings</i> , including <i>voluntary contributions</i> as well as money raised by <i>taxation</i> (XI., 1), for each child in the average membership of the public schools (IV., 6),	\$39 71
Increase,	\$1 13

XIII. Percentage of State Valuation expended for Public School Purposes.

1. Percentage of the total State valuation (May 1, 1907) raised by <i>local taxation</i> and expended for the <i>support</i> of the public schools (IX., C), . . . . .	.004 $\frac{0}{100}$ or \$4 00 per \$1,000
Increase, . . . . .	.000 $\frac{5}{100}$ or \$0 05 per \$1,000
2. Percentage of the total State valuation (May 1, 1907) raised by <i>local taxation</i> and expended on the public schools for <i>support</i> and <i>buildings</i> (XI., 3), . . . . .	.005 $\frac{0}{100}$ or \$5 08 per \$1,000
Increase, . . . . .	.000 $\frac{10}{100}$ or \$0 10 per \$1,000

XIV. Vacation schools, 1907.

1. Number of vacation schools supported at public expense,	34
2. Number of cities and towns having vacation schools,	11
3. Number of teachers,	278
4. Number of pupils,	14,359
5. Average number of months schools were kept,	1 $\frac{2}{5}$
6. Cost of vacation schools,	\$12,437 09

XV. Academies and Private Schools.

1.	Number of incorporated academies,	42
	Increase,	1
2.	Whole number of pupils in the academies for the year, .	6,072
	Increase,	322
3.	Amount of tuition paid in the academies during the year, .	\$681,871 52
	Increase,	\$61,438 11
4.	Number of private schools returned,	344
	Increase,	30
5.	Whole number of pupils in the private schools during the year,	91,722
	Increase,	265
6.	Amount of tuition paid in private schools (much of it estimated),	\$728,268 14
	Decrease,	\$101,784 24

SIGNIFICANCE OF SCHOOL STATISTICS.

When the Massachusetts school fund was established, in 1834, it was made a condition of receiving aid from it that towns should make returns to the State of the school conditions according to forms prescribed by statute (chapter 138, Acts of 1835). From the beginning these returns have been illuminating as to the liberality of public school support and the intelligence with which public money has been expended.

The public school system really dates from this requirement. The knowledge afforded by the returns has guided legislation in its action and has furnished arguments for the advocates of reform. Comparing their own condition with that of other towns, backward communities have been stimulated to increased expenditure. Local pride has combined with legislative requirements to make school practices more and more uniform.

Steadily the general average has been raised in all those elements which go to make a well-ordered school system, — buildings, attendance, length of schooling, equipment, range of studies, qualifications of teachers, methods of instruction and discipline, and supervision.

How the figures annually published by the Board of Education have been used as weapons by the progressive people in the different towns and cities is shown in the earlier years by the reports of the school committees, which must by law accompany

the returns to the State, and in later years by the reports of the superintendents.

The successive reports of a single town may show appeals year after year for better schoolhouses or for better pay for teachers, and then there appear in congratulatory tones chronicles of a new schoolhouse; or long-needed repairs to an old one; or an increased appropriation, allowing a larger weekly stipend for teachers, and the employment, in consequence, of a trained or experienced teacher in place of a novice; or a longer school term; or improved attendance.

The annual school reports of many Massachusetts towns and cities afford excellent material for the study of popular government and show how influence rather than authority has brought about social improvement. The returns also serve to show how social changes are reflected in school conditions, and what new educational agencies are devised to meet new conditions.

Because the care of schoolhouses is now wholly a paid service, and because the newer methods of sanitary heating and ventilation require more fuel and more skilful janitors, the item of expense for fuel and care has steadily increased. Because small schools have been closed and because parents are unwilling to have their children walk far to school, the expense for transportation has grown to a large amount, in some cases equalling or exceeding the cost of instruction. The cost of text-books and supplies now appears as an item of public expense, instead of being concealed in the private accounts of the parents. Foreign immigration and city life have necessitated evening and vacation schools.

EQUALIZATION OF OPPORTUNITIES.

The upbuilding of the Massachusetts school system has been a continuous process of equalizing educational opportunities.

First, opportunities within the towns were equalized by substituting the town for the district as a unit.

Second, by State aid differences between large and small towns, rich and poor towns, have been lessened.

Third, the children of the poor are neither obliged to go without suitable school books nor to receive them as charity from the public.

Fourth, high school opportunities have been secured for all children.

Fifth, all schools have the benefit of professional supervision.

Sixth, by the employment of school physicians and school nurses, effort is now being made to reach those who are suffering from physical and mental disabilities, and to remove some of the obstacles which impede their progress.

Seventh, a beginning has been made to give some vocational equipment to those boys and girls who must leave school, and cannot have that more advanced instruction which is supposed to open the way to wider earning opportunities. Of these last two, I shall speak more at length.

THE NEXT STEP.

There are people who believe that the educational system of the State will not be complete until provision is made at public expense for collegiate, technical and professional instruction. In recent years measures have been introduced into the Legislature looking to this end, and they have commanded much intelligent support at committee hearings. The statement is made that many worthy young men and women are deprived of the advantages of higher education because of limited means. A circular recently issued estimates the number of such as high as 20,000. Comparisons are made between Massachusetts and the western States, which include State universities with practically free tuition in their educational systems, and Massachusetts is said to be behind the age.

Massachusetts has not been wont to count the cost very closely when a great educational need has been made apparent, but it may be well to consider what an education comparable to that now furnished in the colleges and technical schools of the State would probably cost.

In 1904 there were reported 5,518 Massachusetts students in the different New England colleges and technical schools. There are more in 1908. The tuition charges in these varied from \$50 to \$250 a year. Assuming an average of \$100 a year, were the tuition fees remitted or paid by the State, the saving

to the students would be more than half a million of dollars a year. But were the State to undertake to provide instruction in institutions of its own, the cost would be much greater. The tuition fees nowhere pay more than half the cost of maintaining the institution. In Harvard University they pay about 45 per cent. Clark College spends about \$400 per student, and requires a tuition fee of \$50.

The annual cost to the State of providing such educational opportunities as are now provided by the New England colleges for the 5,518 students would be more than a million dollars. This is outside the cost of the plants.

The argument for State support is that many more students would be educated. Double the number of students, and the expense reaches two millions. Provide for the 20,000 said to be now wishing collegiate opportunities, but unable to obtain them, and the State would be called upon to assume an annual burden of five million dollars, — an amount equal to the whole State tax for 1908, which was so much in excess of all previous burdens as to provoke universal criticism.

STATE SCHOLARSHIPS.

Without undertaking the task of establishing new institutions, the State might increase the number of free scholarships, and thereby widen the range of its beneficence.

Forty scholarships are now annually supported by the State in each of the two technological schools, — the Massachusetts Institute of Technology and the Worcester Polytechnic Institute. The number of applicants for these is greatly in excess of the number available, so much so that the practice has been adopted of giving half scholarships, thus nearly doubling the number of beneficiaries.

In 1908 there were awarded at the Massachusetts Institute of Technology six whole and sixty-eight half scholarships; at the Worcester Polytechnic Institute, seven whole and sixty-six half scholarships.

From all the applicants those are selected whose scholarship is high and whose pecuniary need seems to be greatest.

It is doubtful if any of the applicants who failed to secure the State aid were kept out of the schools by reason of this

failure. They found some other way of raising the money for their tuition. That this involved some hardship there is little doubt. The boys probably have undertaken to earn the money as they go along, or they have borrowed it with the idea of paying it from post-graduate earnings, or their parents are taxing their resources more severely. That the number of scholarships might wisely be increased is probably true, but there seems no good reason why such scholarships should be confined to the two institutes. Equally worthy and equally needy students are found in the textile schools and in all the colleges.

COLLEGE AID.

In the discussion of this subject the fact seems to have been overlooked that already a large number of needy young men and women are being aided in their efforts to obtain an education through beneficiary agencies in the colleges themselves. In fact, such large amounts of money are annually used in student aid that the assertion is frequently heard that no worthy person need go without college advantages because of poverty.

The authorities of Wellesley College say:—

It has been the case for many years, perhaps, throughout the history of the college that no well-qualified student from towns in the immediate neighborhood of Wellesley has been forced to abandon the college course on account of lack of means.

The president of Boston College writes substantially to the same effect.

To inquiries regarding beneficiary funds, the authorities of the Massachusetts colleges have responded with the utmost courtesy, and their replies are summarized in the following table:—

College funds for beneficiary purposes.

NAME OF COLLEGE.	Total funds.	Annual distribution, 1906-07.	Number of students aided.
Amherst,	\$300,000	\$14,500	150
Boston, ¹	-	-	60
Boston University,	-	9,800	116
Clark, ¹	-	1,000	-
Harvard College,	-	128,319	568
Holy Cross, ²	-	-	-
Mt. Holyoke,	140,000	6,600	85
Radcliffe,	115,000	4,750	22
Simmons,	7,063	4,295 ³	52
Smith,	52,000	9,000 to 10,000 ³	180
Tufts,	171,074	12,886	172
Wellesley,	-	11,525 ⁴	43
Williams,	194,447	10,000	70
Massachusetts Institute of Technology,	715,450	26,887	189
Worcester Polytechnic Institute,	-	4,800	32

¹ No special beneficiary funds but students aided from general funds.

² No special fund, but much aid given to poor students and a few special scholarships.

³ Larger part appropriated from general income of the college.

⁴ Scholarship fund. In addition, about 70 students are aided to the amount of \$100 each through a lower rate for board in the college cottages.

These figures, substantial as they are, indicate only in part the relief afforded to needy students. There are in all the colleges loan funds from which students borrow on easy terms. There are academic prizes in several of the colleges by means of which many students add to their income, and within reach of most college authorities are private sources which may be drawn upon in cases of special need. There are no means of knowing how many students are partially self-supporting through their college course, but the number is large, and most colleges undertake to find means of employment.

There is abundant evidence that the Massachusetts colleges, though not supported by public funds nor controlled by public authority, are not ministering to an exclusive class. Holding in trust great funds devoted to academic purposes by generous men and women of past generations, they are administering

the trust in no narrow spirit, but with the purpose of giving the largest opportunities possible to the largest number of persons possible.

MEDICAL INSPECTION.

The law requiring school committees or boards of health to appoint school physicians was amended during the legislative session of 1908 by repealing the section which limited the expenditures to a specific appropriation for the purpose. This leaves the law mandatory upon all school committees in towns and upon all school committees in cities where the work has not been taken up by boards of health.

Reports received show that in 294 of the 321 towns and in 32 of the 33 cities school physicians have been appointed and are now at work.

In one or two towns it appears that the inspection is under the direction of the board of health. This is not in accordance with the law. Boards of health are authorized to appoint school physicians only in cities.

In a majority of cases the physicians report in writing to the committees, and their reports are printed in the annual school reports. This should be required in all cases.

The reports now in print are most gratifying. With great unanimity they show that the physicians have accepted their appointment in the highest professional spirit; that they have entered on the new work with interest; that they have interpreted the law broadly; that they have dealt with delicate situations with tact and wisdom, thereby winning the confidence of parents and teachers; and finally, that the service which they have rendered is in most cases far in excess of their pecuniary compensation.

The following statement, from the report of the superintendent of schools of Northampton, is typical of many: —

Medical inspection in the Northampton schools is an unqualified success. This is largely due to the energy, tact and practical experience in school matters of our school physician, Dr. J. G. Hanson, supplemented by the cordial co-operation of parents and teachers, and, most important of all, the professional support given him by the physicians, dentists and oculists practising in this city.

A part of the work, which was less prominent in the minds of those who framed the law, may yet prove to be of prime importance. This is the inspection of school buildings and premises. In many of the reports the inspection is shown to have been thorough, and the conditions as to light, heat, ventilation and sanitation are described in unmistakable terms. Improvements which neither teachers nor superintendents nor State agents have been able to secure may yet be brought about through the fearless exposures by the school doctors.

The possibilities in this direction are shown in the Amesbury report: —

By virtue of a law passed by our Legislature of 1906, a new office in the management of our schools was created. Several conditions, which had existed some time, confronted your inspector, and needed immediate attention. The work of the year has been looked after thoroughly. We will be excused of any egotism if we say the results have been exceedingly gratifying. Of course only a beginning could be accomplished where there is so much work to do.

The first and foremost thing to do was to remedy the condition of things at the Bartlett school. Here was a menace, in the minds of the parents, and the school committee was at a standstill as to what to do. When the superintendent wanted to transfer pupils from one school to another, he had to respect the arguments against the bad health conditions at the Bartlett.

Diphtheria had made its appearance there so often (ten or twelve cases) that many sessions of school were lost, the full attendance lessened and the school efficiency materially interrupted. The drainage from the sink was found to be bad, — absolutely no idea of health in its construction. A cesspool was sunk, plumbing established in accordance with the regulations of the board of health, house cleaned, fumigated, and then a liberal coat of oil applied to all the floors. There have been no contagious cases from that school since.

For years (always, for that matter) contagious diseases have occasionally broken out in some of the schools, so that the board of health had to destroy many dollars' worth of books and other school property, discontinue the school sessions, clean, wash and fumigate, all of which entailed many dollars of expense to the tax payer. During this year not a single case of contagious disease has made its appearance, not a cent's worth of property has been destroyed, not a session of school has been omitted, and the board of health are strangers to us.

The reports also show that an increasing number of children are cared for by the parents in accordance with the notification

cards sent from the school. Yet parental neglect still stands in the way of securing the hoped-for results. Where school nurses are employed, the children are cared for more quickly and better, and the loss of school time is reduced to a minimum. All signs point to the fact that the school nurse will ultimately be considered an essential factor in the school system of all cities and large towns.

EYE AND EAR TESTS.

The second annual tests of sight and hearing of school pupils have been made by the teachers, and the results included in the school returns. Only one town, Nantucket, reports that the examination was not made. The results are as follows:—

Eye and ear tests.

COUNTIES.	NUMBER OF PUPILS EXAMINED.		DEFECTIVE EYES.		DEFECTIVE EARS.	
	1907.	1908.	1907.	1908.	1907.	1908.
Barnstable,	4,562	4,529	770	539	276	143
Berkshire,	14,343	14,653	2,614	2,470	786	593
Bristol,	38,210	37,957	7,683	6,700	2,450	1,802
Dukes,	678	752	162	162	32	43
Essex,	54,088	53,252	11,984	9,308	3,240	2,326
Franklin,	6,546	6,925	1,343	1,077	520	397
Hampden,	26,749	27,458	5,275	4,761	1,749	1,750
Hampshire,	8,807	8,650	1,626	1,510	535	407
Middlesex,	92,688	93,567	19,975	16,839	5,495	3,902
Nantucket,	—	—	—	—	—	—
Norfolk,	26,525	27,800	4,498	4,342	1,465	1,254
Plymouth,	20,818	21,165 ¹	3,295	2,934 ¹	911	819 ¹
Suffolk,	93,920	92,463	28,853	21,950	7,324	6,805
Worcester,	44,530	48,264	8,529	8,566	2,604	2,360
State,	432,464	437,435	96,607	81,158	27,387	22,601

¹ Exclusive of Hanson.

While the number of children examined in 1908 is slightly larger than the number in 1907, the number found defective appears to be decidedly smaller. In 1907, 22.3 per cent. of those examined were found to be defective in vision and 6.3

per cent. in hearing. The number reported in 1908 as defective in vision is 18.5 per cent. and in hearing 5.1 per cent.

It is impossible at present to account for this apparent reduction. Whether it is due to more careful testing, or to a different basis for reporting, or to counting children wearing glasses as normal, no one can tell; but it is interesting to note that there appears to be a reduction in every county. The figures for another year may throw some light upon the subject.

DISCLOSURES BY SCHOOL INSPECTION.

The number of children suffering from some physical ailment is shown to be much greater than any one had supposed. This is true of the country towns as well as of the cities. In a small country school were found an epileptic child, one with serious spinal curvature and one with quite pronounced chorea. A school physician, who has inspected 330 children in two country towns, reports:—

Of these, 217, or 65 per cent., had decayed teeth; 65, or nearly 20 per cent., had adenoids and chronically enlarged tonsils; 9 had decided eczema; 5 had valvular lesions of the heart; 7 had head lice; and 1 had spinal curvature.

In view of these facts, the statement frequently made as an excuse for non-action on the part of school committees, "Our children are all healthy," is evidently founded on ignorance.

In the cities the number of children affected and the variety of ailments is large. In Worcester the school inspectors found the following:—

DISEASES.	Cases.
Specific infectious diseases,	269
Diseases of the oral and respiratory tract,	1,974
Diseases of the ear,	75
Diseases of the eye,	223
Diseases of the skin,	2,109
Miscellaneous diseases,	1,402

In Boston the inspectors found: —

DISEASES.	Cases.
Specific infectious diseases,	408
Diseases of the oral and respiratory tract,	1,932
Diseases of the ear,	213
Diseases of the eye,	1,067
Diseases of the skin,	4,497
Miscellaneous diseases,	1,368

I have used these two cities as types. No one would be willing to vouch for these figures as showing the exact physical condition of all the school children in these cities. The inspections vary in their thoroughness, the physicians vary in their diagnoses, and the categories used in classification are not exactly alike in their content. But what the figures do show is, that a large number of children are in school who were not at the time of inspection *well*.

LIMITATIONS ON SCHOOL WORK.

There is always in the public mind a feeling of dissatisfaction with the results of educational work. Such feeling finds voice in private circles, on public platforms and in periodical literature. The voices are more numerous and more strident at some periods than at others, but the feeling always exists and has always existed, and lies at the foundation of all educational reform. The dissatisfaction has not been without justification. The schools have not secured all the results desired. The money expended has not brought the return which the public had a right to expect. These facts cannot be concealed nor truthfully denied.

In looking for the cause or causes of the inadequate returns yielded by the schools, most of the speakers and writers have gone far astray. They have almost without exception confined their view to the schools as institutions, — that is, to the admin-

istration, to the teaching, or to the curriculum. Never has one of them taken account of the fundamental factor in the problem,—the children themselves. The assumption in all these discussions has been that children, being children, are equally susceptible to education; that they will “take” learning as they take diseases peculiar to children, if they are properly “exposed” to it.

Medical inspection has given a rude jolt to this assumption. It has shown that in the cases of large numbers of children there is no reasonable ground for expectation that they will come out of the schools scholars. In the cases of many we have no right to expect to develop a high degree of intelligence. One physician’s report says, “I found fourteen children who were mentally deficient,” that is, too weak minded to profit by school instruction. But of children of normal mental powers the number of children suffering from physical ailments is large enough to lower the standard of attainment of the whole school population. Take, for example, some of the cases classed under miscellaneous diseases.

According to the Boston report for 1906, the inspectors found 208 cases which they called anæmia. If there had been so many cases of diphtheria, everybody would have been alarmed,—teachers, parents, doctors and the public. But only anæmia,—merely pallor and weakness and languor,—and, perhaps, some functional disturbance, no one makes much account of these, and the school machinery grinds on.

If the study of physiology has taught anything, it is that for all mental activity one thing is essential,—an adequate supply of good red blood. Fancy an anæmic girl sitting down at night to a difficult lesson in arithmetic or geometry or Latin, trying to concentrate her thought, summoning powers which cannot respond to her call. Her inevitable failure is not a failure in the teaching, or in the curriculum, or in the disposition of the girl; it is simply a failure to coerce nature to a reversal of her laws.

What is true of anæmic pupils is equally true of hundreds reported as suffering from neuralgia. There is no possibility of successful and continuous intellectual effort.

In view of what medical inspection has already shown, we have a right to insist that when the results of school work are

measured, men should judge righteous judgment. There is much popular clamor for "the essentials" in public schools. Modern business has become so highly systematized and specialized that the business man expects every employee to work with the promptness and unerring accuracy of a standardized machine; anything less than this causes annoyance.

If the schools could receive from the homes children sound in body and clean in personal habits, these children would go out able to read and write and spell and cipher to everybody's satisfaction, without leaving out anything from the present curriculum.

The essential which is lacking is a *condition of body* which makes concentrated and sustained mental effort not only a possibility, but a delight. As this condition is approximated, the schools will have approximate success.

The whole situation is aggravated by the facts which a recent investigation in New York has shown, — that the physical defects are most numerous in the earlier years of school life. Children outgrow many of their troubles. While there is some comfort in knowing this, school people will at once see that the period when defects are most numerous is the period when in the lower grades most of the mechanical work is done, which is the foundation for all subsequent study. This is the time when children are learning to read and to write and to spell and to handle numbers, — the time when habits of accuracy are formed, if formed at all. It is the time for drill.

The facts shown in the chapter on "Retardation and Physical Defects," in the book, "Medical Inspection of Schools," prepared by Dr. Luther Hasley Gulick and Mr. Leonard P. Ayres, and published by the New York Charities Publication Committee, are most significant.

THE TEETH.

Examinations of the teeth of school children in different places throw light upon the primary cause of many of the disabilities under which children suffer.

A paper read by Dr. C. Edward Wallis at the London Congress of School Hygiene in 1907, and published in the second volume of the proceedings, contains a table showing the results of an examination of 245 children between the ages of seven and

twelve in an elementary school in one of the poorer districts of London:—

Totals.

Number examined,	245 children.
Number of decayed temporary teeth,	952 = average per child, 3.9.
Number of decayed permanent teeth,	685 = average per child, 2.8.
Alveolar abscesses and fistulæ discharging pus,	23 = 9.3 per cent.
Chronic pharyngitis,	40 = 16.3 per cent.
Chronic enlargement of tonsils,	71 = 29.0 per cent.
Chronic submaxillary lymphadenitis (en- larged glands under the jaw),	150 = 62.2 per cent.
Enlarged glands in neck,	16 = 6.5 per cent.
"Mouth-breathers,"	6 = 2.4 per cent.
Anæmia (22 boys, 66 girls),	88 = 37 per cent. (13.4 boys, 81.4 girls).

Strasburg was the first city in the world to maintain a municipal school dentistry. Dr. Jessen, in a paper read at the London Congress, reports of this work:—

In no part of the public medical service have such results been obtained with such small expense. The experience of the Strasburg and other experiments has proved beyond doubt that the health of the children has been greatly raised by dental treatment. The care of the teeth has guarded against infectious diseases, and been a most valuable factor in the struggle against the spread of tuberculosis. . . .

The report of the government inspector laid stress on the following facts:—

School absences caused by toothache had greatly diminished.

The work of children hitherto suffering from their teeth had greatly improved.

The general health of children who occasionally suffered from toothache had greatly improved, as a consequence of dental treatment.

Very little school time had been lost by children attending school dentistry, as they went out of school hours. . . .

The children took the greatest interest in the instruction given to them about the care of their teeth.

The children like to be treated by the dentist, and no objections whatever had been experienced on the part of the parents.

Dr. Jessen made this statement: "In Germany at the present moment at least 90 per cent. of all elementary school children suffer from decayed teeth."

That conditions are not much, if any, better in Massachusetts, seems probable, judging from some reports recently made.

The school physician of Ashby reports that 95 per cent. of school children have decayed teeth.

The school physician of Northampton reports as follows:—

The most deplorable fact elicited from the examination was the almost total lack of care given children's teeth. Out of 600 children whose teeth were examined, only 74 had received any attention, and the larger number of the 526 exhibited most uncleanly and unhealthy mouths.

Dr. Willard C. Crocker, medical inspector of the schools of Foxborough, gives in his report a table of the results of inspection in all the schools of that town:—

SCHOOL.	Number examined.	Teeth needing to be filled.	Teeth to be extracted.
High,	69	268	141
Grade IX.,	43	147	26
Grade VIII.,	48	166	25
Grade VII.,	51	162	31
Grade VI.,	31	81	11
Grade V.,	36	103	45
Grade IV.,	36	47	20
Grade III.,	39	71	8
Grade II.,	31	38	—
Grade I.,	40	8	3
Cary school,	30	38	6
Quaker Hill school,	24	33	2
Everett school,	14	26	1
Plimpton school,	18	31	—
Pratt school,	26	48	5
Paine school,	36	36	10
Totals,	572	1,303	334

A striking feature of this exhibit is the condition of the teeth of the pupils in the high school. There is no reason to think that the condition is worse in this town than in others.

It would be easy to satirize a condition which keeps boys and girls in high school at work five hours a day for four years on Latin and French and algebra and chemistry and a dozen other subjects, and leaves them ignorant of the elementary principles of health and without habits of personal cleanliness.

That faithful inspection and frank reporting of the results will bring relief is evident from Dr. Crocker's report:—

Though the examination and report sent to each parent showed the defects of the milk teeth, the above summary refers only to the adult teeth, and *does not include teeth already filled or missing. . . .*

All agree on the necessity of checking the decay that is started; and we are pleased to announce that the dentists of Foxborough have united in granting a discount of 25 per cent. from the regular prices upon all work for the school children as outlined in this examination, and that in some cases a special discount may be arranged on recommendation of the medical inspector.

It looks as if through dental inspection we were getting nearer the root of many of our school difficulties. For this reason the propaganda started by the Massachusetts Dental Council is most welcome. The travelling exhibit which has been prepared and the popular lectures which accompany it are proving effective means of arousing public interest.

TUBERCULOSIS.

The Legislature of 1908 (chapter 181) added "tuberculosis and its prevention" to the legal requirements for school instruction, so that the law now reads:—

In each of the subjects of physiology and hygiene, special instruction as to the effects of alcoholic drinks and of stimulants and narcotics on the human system, and *as to tuberculosis and its prevention*, shall be taught as a regular branch of study to all pupils in all schools which are supported wholly or partly by public money, except schools which are maintained solely for instruction in particular branches. . . .

In order that the teachers might have some authoritative guide in carrying out the provisions of the law, the secretary of the

Board of Education through the courtesy of Dr. Robert W. Lovett of Boston was able to confer with several prominent specialists in pulmonary diseases, who agreed to prepare a simple booklet of suggestions to teachers. This was done, and copies have been furnished to all the teachers of the State. The contents are as follows: —

SUGGESTIONS TO TEACHERS REGARDING TUBERCULOSIS AND ITS PREVENTION.

The suggestions to teachers contained in this booklet have been prepared for the Board of Education, as a matter of public service, by the following eminent specialists of Boston: —

ARTHUR T. CABOT, M.D., Chairman Massachusetts Commission on Hospitals for Consumptives.

HERBERT C. CLAPP, M.D., Professor of Pulmonary Diseases, Boston University School of Medicine.

EDWARD O. OTIS, M.D., Professor of Pulmonary Diseases, Tufts College Medical School.

HORACE D. ARNOLD, M.D., Professor of Clinical Medicine, Tufts College Medical School.

CLEAVELAND FLOYD, M.D., Director, Out-patient Clinic, Boston Consumptives' Hospital.

JOHN B. HAWES, 2d, M.D., Secretary Massachusetts Commission on Hospitals for Consumptives.

GEORGE H. MARTIN,
Secretary.

Introduction.

Chapter 181 of the Acts of the Commonwealth of Massachusetts of 1908 provides that tuberculosis and its prevention shall be taught in all grades of the public schools of this State in which instruction is given in the subjects of physiology and hygiene. This pamphlet is not intended as a text-book for teachers of this subject, but is merely to suggest certain lines of instruction and to emphasize certain points to be dwelt on with particular emphasis. At the end of this pamphlet will be found references to various standard works on this subject, some of which will be within the reach of every school teacher, or which can be secured at a nominal price.

It is manifest that the methods of teaching and the subjects which are taught must vary a great deal, according to the age of the pupils. Among the primary grades, for instance, it should be made clear in the first place what consumption is, and why it is necessary to know something about it; and then particular emphasis should be given to the question of home hygiene, fresh air, open windows at night, bathing, care of the teeth, proper clothing, proper food, the avoidance of tea, coffee and tobacco, etc. Pupils in the grammar schools should be taught

more than this, — they should be given some idea as to what this disease is doing in our midst, what causes it, and the methods which are being taken to combat it. In the high schools and normal schools instruction should go still further, and it is possible that the teachers or head masters can make arrangements with the school physicians, or with physicians of local anti-tuberculosis associations, to give a series of short talks on this subject. Students of this age should not be allowed to finish their training without having a very clear idea in regard to consumption, its cause, the methods of prevention and cure, the present campaign against it, the methods of treatment in the sanatorium and especially in the home, and, most important of all, the early signs and symptoms of this disease, as well as a thorough knowledge of the ordinary laws of health and hygiene. It would be well if every such pupil was required to read Dr. Knopf's excellent essay, entitled "Tuberculosis as a Disease of the Masses, and how to combat it," which can be bought for 25 cents, or which can be secured in the local library.

Every teacher should realize her opportunity in thus directing her pupils in the way of wholesome living. A healthy mind requires a healthy body. The interest of the scholars will be aroused in this matter only in so far as the instructor stimulates or develops this interest.

Outline.

I.

What tuberculosis is. What consumption is. What the tubercle bacillus is. When discovered, and by whom. Methods of growth. Things favorable to its growth. Things unfavorable to its growth.

II.

Outline of history of tuberculosis: (1) ancient times; (2) dark ages; (3) present.

III.

What tuberculosis does: (a) in the world; (b) in this country; (c) age at which it kills; (d) compared with other great disasters, — yellow fever, Slocum disaster, San Francisco fire, Civil War.

IV.

How tuberculosis is spread. Sputum; milk; anti-spitting laws.

V.

Tuberculosis is preventable; it is curable; it is not hereditary. How prevented: (a) by living so as to keep health, — fresh air, — exercise, — food, etc.; (b) non-spitting.

VI.

How cured, — sanatoria. Home treatment. Methods of getting fresh air. A cure possible in any climate. A *tendency* and *not* the disease is hereditary.

VII.

Early signs and symptoms of consumption. Importance of other things besides a cough, — pallor, anæmia, loss of weight, weakness, listlessness, uncleanliness, glands, etc.

VIII.

The campaign against consumption in Massachusetts. Every one must do his share. Tuberculosis exhibits, societies, hospitals, etc.

IX.

Reference to standard works on the subject.

Tuberculosis and its Prevention.

I.

Tuberculosis is a disease caused by a very small germ or microbe called the tubercle bacillus. This is so small that it takes three thousand put end to end to measure one inch. This germ does not readily grow outside of living bodies, but when it gains entrance into the body it grows and multiplies, and finally destroys the tissues, and thus causes the disease tuberculosis.

Consumption is tuberculosis of the lungs, otherwise known as pulmonary tuberculosis, pulmonary consumption, or phthisis. Tuberculosis of other parts of the body is known by different names, such as humpback, or Pott's disease, which is tuberculosis of the spine; hip disease, tuberculosis of the hip; white swelling of the knee or of the ankle, which is tuberculosis of the knee or of the ankle; scrofula, which so many children have, characterized by lumps in the neck caused by enlarged glands, which is nothing but tuberculosis of these glands; lupus, a skin disease, tuberculosis of the skin. So it is possible for this tiny germ to cause tuberculosis or tuberculous disease of any part of the human body.

Although this germ cannot grow outside of the body, yet it will survive and keep its vitality for a considerable time after it is cast out. Darkness and damp favor its survival. Dryness, fresh air and sunlight tend to destroy it. Direct sunlight will kill any germ of tuberculosis in twenty minutes.

The organism which causes this disease was discovered by a famous German physician, Dr. Robert Koch, in 1882. Up to that time nobody knew what was the cause of this terrible affliction.

II.

Tuberculosis is a very old disease. Indeed, in the old Egyptian mummies evidences of tuberculosis have been discovered; and the famous writers of the old days, whose writings are still in existence, described this strange condition, in which their patients developed a cough and gradually wasted away. The disease was known then, as it is now,

as the "Great White Plague." There was not much which they could do for it. A few of the wiser doctors advised their patients to go to the mountains or to take a sea trip, although they could not explain why this should be beneficial.

Later, in that period in the history of Europe known as the dark ages,—the tenth, eleventh and twelfth centuries,—even the little knowledge which men possessed about tuberculosis was forgotten, and the disease swept through Europe, destroying people by thousands and sometimes wiping out whole families. Those suffering from this disease were shunned and avoided as if they were lepers, and were confined in rooms with the windows and doors closed, shutting out fresh air and sunlight,—things which we now know are so important in curing the disease.

In the first half of the nineteenth century people began to realize that consumption was curable. In Germany they began to build hospitals or sanatoria for consumption, where those suffering from this disease could be sent and undergo the out-door treatment, remaining in the fresh air all the time, eating proper food, and thus have their disease cured. This plan of the open-air treatment has spread over the entire world. Now a person with consumption is no longer given up as hopeless, but in the various hospitals and sanatoria which are scattered all over our country, and especially in Massachusetts,—the leader in this movement,—as well as in the homes of the people, consumption is being cured.

III.

While consumption, then, is curable, it is still a very prevalent disease and is causing incalculable suffering and loss, chiefly because it is greatly neglected. It has been found that of all people who die every year, about one-seventh die from consumption. When we consider the terrible carnage in the destructive battles in the eighteenth century we are rightly shocked, and yet during that same period nearly twice as many died from tuberculosis. In this century, during the four years of the civil war there were killed some one hundred and fifty thousand men, which causes one to realize the terrible nature of war; and yet every year in the United States there are more than one hundred and fifty thousand people destroyed by this one preventable disease,—consumption. The combined sum of all those who die of typhoid fever, appendicitis, scarlet fever, measles, diphtheria and cancer does not begin to equal the number that die from consumption alone. Such comparisons as these bring us to a realizing sense of the part played by consumption in producing misery and suffering in the world.

Most important of all is the fact that this disease attacks people when they are in the prime of their life, and when their services are worth most to their families and to the community in which they live; for the mortality from consumption is the greatest during the most active period of life,—from fifteen to thirty-five or forty years. It spares

no one, neither the child, the youth or the adult, the weak or the strong. Compare this with the infectious diseases of childhood, such as diphtheria, scarlet fever, etc., which are most prevalent and fatal in the early years of life, and with cancer, which is rarely fatal before a person is fifty years old, when one has lived longer than the average length of human life.

During the past five or six years there have been certain great disasters which have aroused the sympathy of the entire country, and for which relief funds have been raised amounting to thousands of dollars: for instance, the yellow fever epidemic in Louisiana some years ago; the terrible Slocum disaster in New York harbor; and the San Francisco earthquake and fire. And yet, terrible as these events seemed at the time, when they are compared with what consumption is doing silently and quietly in our midst, their importance sinks into insignificance.

IV.

When the germ of consumption attacks any person, it gets into his lungs and there grows and multiplies. As the disease becomes active a cough develops, and the person afflicted raises a certain amount of sputum. In this sputum are an innumerable number of the tuberculosis germs, which, if they are inhaled by people run down or otherwise in a poor condition to resist disease, may cause the disease in them also. This sputum must be destroyed in every case. If all sputum from consumptives were destroyed, consumption would soon die out. The disease is spread by carelessness or ignorance on the part of the consumptives, who do not realize that every time they fail to destroy the sputum, or spit on the floor, or on the sidewalk, it will dry, be ground up into a powder, fly through the air as dust, and be inhaled by some person who is in a condition to receive the disease, and so cause the disease in him. It has been calculated that in the sputum of one consumptive in the course of twenty-four hours there may be more than twenty-four million of these germs.

It is for this reason that a law has been made forbidding spitting on sidewalks, in public buildings, in cars, etc. It is then most important that every one, young or old, should realize clearly the dangers of indiscriminate spitting, and one's duty in seeing that this disgusting habit is stopped. Tuberculosis may be spread in a small measure in other ways: by means of germs from tuberculous cattle, which find their way into milk or meat; but this factor is such a small one that it may properly be passed over with a very few words.

While we should realize that an untrained, ignorant and careless consumptive is a danger to the community, we should also remember and constantly teach that the trained consumptive who is careful about his sputum and clean in his habits ceases to be dangerous, and may live among us without jeopardizing the health of others. It is very important that this distinction should be made clear, and that every

effort should be made to eradicate the stigma which in present times often rests upon the consumptive, no matter how careful and well trained he is.

V.

Tuberculosis is not hereditary; it is the *tendency* which is inherited, but not the disease itself. In other words, consumptive parents may have children who are naturally of a poor constitution, with weak lungs, flat chests, and little or no power to resist infection. Children in such families should be brought up with the utmost care, and should be given the maximum amount of fresh air and sunlight. The training of their minds should be sacrificed, if need be, in order that their bodies may be developed to the highest possible standard of health. It is for such children as these that there have been founded in Germany the so-called "forest schools," where the children of tuberculous parents and all those children who are weak and run down and liable to contract this disease are sent. There they go to school practically out of doors, and are trained in the best habits of hygiene and proper living. Such a school as this has recently been opened in Providence, R. I., and others are planned for this State.

We should endeavor to teach children, first, that spitting is a dangerous as well as a disagreeable habit; and second, that the best way to avoid consumption is to so live that we are always in a healthy condition, so that we can resist the harmful action of any germs that may find their way into our lungs or stomachs. We should teach children the importance of fresh air, good food and cleanliness, and a proper amount of sleep.

In regard to fresh air: in far too many instances mothers have a positive dread of open windows and of draughts. It is, however, very important that rapidly growing children should have as much fresh air as possible. This should be taught in a practical way in the school-room itself, by using every possible means for good ventilation, by opening the windows wide during all recess intervals, and by interrupting hours of study by short intermissions during which the children are given breathing exercises with the windows wide open. The fact should be emphasized that night air is not dangerous. The fact that we are all spending one-third of our lives in sleep, and that during this one-third, which is the period used for building up the body and making good the losses sustained during the day's work, it is most important that the body should have fresh air in large amounts, should be taught. A large amount of sleep in the growing period is important. All this should be emphasized.

The question of proper food should be considered. The use of tea and coffee and other stimulants among children, especially of the poorer classes, is extremely common, and does a great deal of harm. The dangers of this should be taught.

The importance of bathing should be made clear. Children, and

through them their parents, should be made to see that the morning bath is not only for cleanliness,* but also to stimulate the body and mind for the work of the day. Every child should be taught as soon as possible to take a sponge bath in a warm room every morning. The proper care of the teeth should be emphasized, and the dangers of neglecting to care for the teeth constantly impressed upon the children.

There should, whenever possible, be active co-operation between the teachers and medical inspectors; for the teacher, who sees the children constantly, can note the signs of failing health far more accurately in many cases than the physician, who sees the child only occasionally.

VI.

The treatment of consumption first of all is by so living that the body does not acquire the disease; therefore, the ideal method of treatment is by prevention. This, however, is not possible in every case; and there are unfortunately a great many people, as has been shown, who have this disease, for whom active measures in curing it or stopping its progress must be taken. Treatment is not by means of drugs or medicines. Especially one should avoid patent medicines and advertised cures of all kinds. Treatment consists in giving the patient fresh air day and night, proper food at the proper time, and rest. This is done either in the home or in institutions built for this purpose, called tuberculosis sanatoria. Massachusetts was the first State in this country to have a State sanatorium. The Massachusetts State Sanatorium is a large institution, which holds three hundred and fifty patients, situated in the center of the State, in Rutland. Here patients in the early stage of consumption, which is the curable stage, are taught how to live out of doors in comfort; how to sleep out of doors at night, or in open-air wards or rooms winter and summer; what food they must eat; the amount of exercise or rest they must take; and the precautions they must use in caring for their sputum, to avoid giving others this disease. Such sanatoria exist in most civilized countries to-day, and more are being established every year. The average length of stay is six months to a year. From sixty to seventy per cent. of those in the early stage of the disease leave the sanatorium at the end of this time apparently cured.

The fact should be emphasized that it is no longer considered necessary for a consumptive to go to a different climate or to some distant place in order to get cured of the disease, for, although certain climates are of value, consumption is being cured in New England every day.

It is important to remember, however, that but a small percentage of these consumptives are in a position financially or otherwise to go to a sanatorium for treatment. A great majority of sufferers from this disease must be taught how to live in their own homes; and at present the so-called home treatment of consumption is meeting with a great deal of attention.

Teachers of our public schools have a great opportunity to instruct the children with whom they come in contact, young and old, in the principles of this treatment; and it is important to always bear in mind that fresh air night and day, sunlight, cleanliness, bathing, plenty of plain, nourishing food, are the things on which the treatment of consumption is based; and, further than this, that these are the essential conditions in obtaining and preserving good health and in avoiding a great many other kinds of diseases. The actual details of the open-air treatment of consumption may well be left to the physician or nurse.

VII.

It is important that teachers should realize that the earliest sign of consumption is not necessarily the so-called hacking cough, hemorrhage from the lungs, or the presence of night sweats and fever. These frequently do not appear until comparatively late in the disease. The earliest signs, in children especially, are those of failing health, from whatever cause. In the first place, the teacher should be told or should find out what children in the class have consumption in their family, and should give special attention to these children. Loss of appetite, weakness, languor, listlessness, are among the early signs. Pallor, marked anæmia, loss of weight, excessive emaciation, the presence of enlarged glands in the neck, are indications that there is something wrong. If in addition to this there is a cough, with or without any sputum, the child should most certainly be examined by a physician.

VIII.

The campaign against tuberculosis in Massachusetts is along two lines; first, that which is being done by sanatoria and hospitals; second, that which is being done outside of these institutions by physicians, boards of health, anti-tuberculosis associations, etc., in teaching people how to live in their own homes.

At present Massachusetts has certain State institutions, such as the State Sanatorium at Rutland for early cases, the three hospitals for advanced cases which are being planned by the Massachusetts Commission on Hospitals for Consumptives, and numerous private institutions. In addition to this, and of still more importance, is the work which is being done by the medical profession throughout the State and by the various anti-tuberculosis associations, lay and medical, which have been formed in all of the large cities and in many of the smaller cities and towns of Massachusetts.

It is by these agencies that the prevention and control of tuberculosis is being accomplished. By means of tuberculosis clinics and district nurses we are finding out the innumerable cases of consumption in the homes, in the tenements and in the factories of our State. The early cases are urged to go to the State Sanatorium at Rutland; proper hospital accommodation is obtained for the advanced cases, or they are taught how to live in their own homes. The masses of the people

are educated by means of lectures, exhibits, cards and signs, etc.; boards of health are stimulated to take proper measures as regards disinfection; and physicians are persuaded to report their cases of consumption as they do their cases of scarlet fever. Most important of all, the general public is aroused to realize the importance of the subject.

One of the most efficient means of instructing the public, and school children as well, in regard to tuberculosis, is by means of the travelling tuberculosis exhibit which goes from city to city throughout the State. It is very important that when this exhibit appears arrangements should be made by which teachers and school children of all grades should attend, and receive definite instruction as to what the various charts, photographs, models, etc., mean. Such an exhibit will be found an object lesson of very great importance, and a means of emphasizing the points which have been given in previous instruction in the schools.

IX.

The following books, or most of them, can be found in the public libraries, in the travelling library of the Massachusetts Federation of Women's Clubs, or should be provided by the local anti-tuberculosis association, and some at least should be provided by the school committees for the use of the teachers. Further information can be obtained at any time by applying to the Massachusetts Commission on Hospitals for Consumptives, 3 Joy Street, Boston, or to the Boston Association for Relief and Control of Tuberculosis, 4 Joy Street, Boston. In almost every case local physicians can give additional information.

List of Books.

"Tuberculosis as a Disease of the Masses, and how to combat it," by Dr. S. A. Knopf. (This can be obtained from "Charities and the Commons," 105 East 22d Street, New York, at 25 cents a copy.)

"The Cause and Prevention of Consumption," a circular issued by the Illinois State Board of Health.

"Consumption and Civilization," by John B. Huber, a large book, going into very minute detail on this subject. (It can probably be found in the public libraries, and can be bought at any large book store.)

"The Prevention and Cure of Tuberculosis," a collection of articles of a popular character on the subject of tuberculosis, by the leading men in this subject in this country; compiled by Joseph R. Long; published by H. M. Brinker, Denver. This is an excellent series of essays, covering the whole ground very completely, and can be secured of any bookseller.

Pamphlet of information on the subject of tuberculosis, issued by the Boston Association for Relief and Control of Tuberculosis, which can be obtained on application at the office of the Association at a nominal price.

Several school text-books on physiology and hygiene contain valuable chapters on tuberculosis. Information concerning these may be obtained from the publishers.

PRINTED RULES OF HEALTH.

The following rules of health have been prepared by the Educational Department of New Jersey, and furnished to all the schools:—

HOW TO KEEP WELL AND PREVENT CONSUMPTION.

Air.

Fresh air and sunshine are necessary to good health.
Cold or damp fresh air does no harm if the skin is kept warm.
Night air is as good as day air.
Breathe only through your nose.
Avoid hot, crowded, dusty, dark or damp rooms.
Breathe deeply and throw back the shoulders frequently.

Food.

Live on plain food, and eat regularly.
Eat slowly, chew thoroughly, and avoid fried food.
Drink water freely (not iced).
Have your own cup if drinking fountains are not provided at school.

Exercise and Rest.

Regular exercise is essential to good health.
Go to bed early, and sleep with the windows open.
Never sleep in a damp bed.

Clothing.

Wear only loose clothes.
Wear no more clothing than you need for warmth.
Never sit with wet feet or in damp clothing.

Cleanliness.

Consumption and other diseases are spread by careless spitting.
Spittle on the floors of rooms, halls, stores and cars will certainly be breathed in the form of dust.

Keep clean. Wipe and dry the body quickly every day.

Keep your finger nails clean, and wash your hands and face before you eat.

Clean your teeth after each meal and before going to bed.

Never hold money, pencils, pins or other things in your mouth.

Never lick your fingers while turning the pages of a book or counting money.

All children should observe the preceding rules, both for their own sake and for the sake of others. They are necessary safeguards against

other dangerous diseases besides consumption. Nearly all children's diseases are infectious.

The foregoing rules have been approved by the State Board of Health and the State Board of Education.

Teachers are requested to make them as effective as possible.

C. J. BAXTER, *State Superintendent.*

TRENTON, N. J.

More specific than these are the rules prepared by Dr. S. A. Knopf of New York City, entitled "Simple Rules for School Children to prevent Tuberculosis."

Do not spit except in a spittoon, a piece of cloth or a handkerchief used for that purpose alone. On your return home have the cloth burned by your mother, or the handkerchief put in water until ready for the wash.

Never spit on a slate, floor, playground or sidewalk.

Do not put your fingers into your mouth.

Do not pick your nose or wipe it on your hand or sleeve.

Do not wet your fingers in your mouth when turning the leaves of books.

Do not put pencils in your mouth or wet them with your lips.

Do not hold money in your mouth.

Do not put pins in your mouth.

Do not put anything in your mouth except food and drink.

Do not swap apple cores, candy, chewing gum, half-eaten food, whistles, bean blowers, or anything that is put in the mouth.

Peel or wash your fruit before eating it.

Never sneeze or cough in a person's face. Turn your face to one side or hold a handkerchief before your mouth.

Keep your face, hands and finger nails clean. Wash your hands with soap and water before each meal.

When you don't feel well, have cut yourself, or have been hurt by others, do not be afraid to report to the teacher.

Keep yourself just as clean at home as you do at school.

Clean your teeth with tooth-brush and water, if possible, after each meal; but at least on getting up in the morning and on going to bed at night.

Do not kiss any one on the mouth or allow anybody to do so to you.

Learn to love fresh air, and learn to breathe deeply and do it often.

OUT-DOOR CLASS IN BOSTON.

The following account of an effort to provide healthful conditions for school children exhibiting signs of incipient tuberculosis has been furnished by Mr. Walter E. Kruesi, secretary

of the Boston Association for the Relief and Control of Tuberculosis: —

Examination of the families of persons applying at the Tuberculosis Clinics in Boston was started at the instance of the Boston Association for the Relief and Control of Tuberculosis in January, 1907. The first 1,200 children examined revealed 100 cases of tuberculosis, mostly incipient. These children were attending the regular public schools. As the incipient cases are not contagious, they were not a source of danger to their schoolmates, but their school records show that they were too unwell to absorb the education which was provided. This, therefore, represented a waste of thousands of dollars per year. Furthermore, the average school ventilation conditions and the pressure of the school work was distinctly detrimental to them. There was absolutely no institution or other provision for such children in this State. Turning to find out what others were doing, the Boston Association studied the forest schools provided for this class of cases by many of the German cities and the outdoor schools provided in England. In these schools the children admitted are sent every day to the open country nearest their homes, and are there provided with proper clothing and school benches set down in the open. During storms the benches are moved under a canopy roof. There is no further shelter. The children are properly fed during the day, and the curriculum is modified by the introduction of therapeutic exercises, rest periods and otherwise, as indicated by scientific study of the needs of the group. The association's secretary proposed last winter that a similar school should be organized in Boston. Finally on the 16th of July it was opened as a day sanatorium and school of outdoor life on the grounds of the proposed Robert Brigham Hospital, Parker Hill, Roxbury. This situation had been previously used to good effect for an adult day sanatorium. A simple building was built, containing two dressing rooms and lavatory with a large shower bath between, an open kitchen, pantry, and platform for a large tent to be used for a shelter in storms and as a dining room. Three 10 by 12 tents were provided for the cook, handy man and tools and supplies. A garden 3 by 7 feet was laid out for each team of two children. There were also three central flower gardens. In these were planted seven varieties of vegetables and ten varieties of flowers. Small plants were put in because of the lateness of the season, and in order to give the children an encouraging start.

The schedule of the day began with assembly and the raising of the national and health flags, then ablutions, breakfast, brushing of teeth. After an hour's work in the garden and an hour's class in study of the lessons of the need of living things for oxygen, good food, sunlight, elbow room, etc., they again became active in free play. Washing up for dinner quieted them, and after again brushing

the teeth, all were required to rest or sleep for an hour. The afternoon routine was similar. At the end of eight weeks all of the children had gained in weight, had made marvelous improvement in appearance and manners, while the tuberculosis of 8 had been definitely arrested. Every garden had succeeded in every crop. One child's family had moved out of the worst part of town to good quarters, while others had materially improved their surroundings.

Lest the great gain which had been made should be lost, the school board was requested to organize a special class, made up of these children and others admitted to take the place of the discharged. An especially fitted teacher was selected for the work, and is now conducting it in the unheated tent. To provide against the exposure, every child is given a waterproof canvas bag lined with blanket. Each child has also been provided with an especially warm overcoat and other necessary clothing. The teacher reports that the children are making satisfactory progress in keeping up with the work which they ought to do were they in the regular school. The city of Boston is making an effort to provide the school with a proper building for shelter during bad weather, and in order that the efforts already so well begun may be placed on a safe basis for continued development.

PLAYGROUNDS.

The playground movement is a part of the general effort to improve the conditions for the physical and mental growth of children, and it seems now to be the most popular part.

In 1908 the Legislature passed the following act, known as chapter 513, Acts of 1908:—

AN ACT TO PROVIDE FOR PUBLIC PLAYGROUNDS IN CERTAIN CITIES AND TOWNS.

SECTION 1. Every city and town in the commonwealth having a population of more than ten thousand, accepting the provisions of this act shall, after the first day of July in the year nineteen hundred and ten, provide and maintain at least one public playground conveniently located and of suitable size and equipment, for the recreation and physical education of the minors of such city or town, and at least one other playground for every additional twenty thousand of its population.

SECTION 2. Cities and towns may appoint, and determine the compensation of, a qualified supervisor of each playground, who shall direct the sports and exercises thereon.

SECTION 3. In cities and towns where the provisions of this act are not already satisfied, land for the purpose aforesaid may be taken, and the money necessary to pay for such land may be raised in accordance with sections nineteen, twenty and twenty-one of chapter twenty-eight

of the Revised Laws; and any land owned by the city or town may be set aside by vote of the city council, or of the board of selectmen, for the purposes of this act.

SECTION 4. In cities and towns which have a population of more than ten thousand, and which have not already satisfied the provisions of this act, the following question shall be placed on the official ballot at the next city or town election:— Shall chapter _____ of the acts of the year nineteen hundred and eight, requiring certain cities and towns to provide public playgrounds, be accepted by this (city or town)?

SECTION 5. This act shall take effect in any city or town to which it applies upon its acceptance by a majority of the voters voting as aforesaid.

Under the referendum provisions of this act it was subjected to popular vote at the December elections in 25 cities. The vote was as follows:—

	Yes.	No.		Yes.	No.
Beverly,	2,139	703	Melrose,	1,386	452
Brockton,	7,468	1,046	New Bedford,	7,107	1,187
Chicopee,	1,445	754	Newburyport,	1,746	770
Everett,	2,102	248	North Adams,	1,217	1,383
Fall River,	10,940	1,484	Northampton,	1,140	1,236
Fitchburg,	3,539	761	Pittsfield,	3,783	727
Gloucester,	2,489	920	Quincy,	3,002	933
Haverhill,	4,825	1,116	Salem,	5,129	606
Holyoke,	5,047	787	Springfield,	10,342	1,006
Lawrence,	7,533	1,406	Taunton,	4,181	910
Lowell,	10,283	2,424	Woburn,	1,994	437
Lynn,	11,122	1,083	Worcester,	13,626	4,557
Marlborough,	2,064	463			

These figures are mainly from newspapers, and subject to slight errors.

The acceptance of this act is only the beginning. There will be needed a campaign of education to secure under the law a sufficient number of grounds suitably located, adequately equipped and properly supervised.

The supervision should be by the school authorities or some other non-political organization.

SCHOOL INSTRUCTION IN HYGIENE.

While the public under the medical inspection law is doing so much for the schools, the question is a reasonable one, "What are the schools doing in return?" It were foolish to go on year after year hunting for troubles and always finding them, spending public and private money in curing defects, without undertaking to go deeper and strike at the roots.

We ought to be able to look forward to a reduction in the number of disabled children, and to the eradication of many if not of most of the diseases and defects.

The physical defects and disabilities from which the children are suffering are in the main due to ignorance of the laws of health. Parental neglect is not wilful.

The relation to health of personal cleanliness and household sanitation, of food and air and light and sleep, is very imperfectly understood.

Public education can have no worthier end than to promote public health. To do this effectively, the much-neglected and much-abused study of physiology and hygiene will have to be given a more prominent place in the curriculum of all schools. Even the three "R's" are not more essential.

To the prejudice created by the unwise efforts to confine all the school instruction in physiology to the effects of alcohol and tobacco is due much of the neglect. There is needed everywhere an increased amount of time for the study, more sympathetic and judicious instruction, and a more studied effort to bring the schools and the parents into co-operation for the forming of better habits by the children, and for more sanitary conditions in the homes. Such study and such effort will make the temperance instruction not less but more effective.

BUSINESS COURSES IN HIGH SCHOOLS.

The so-called commercial courses in the high schools have been established mainly during the last twenty years. In a report on high schools made to the Board of Education by one of its agents in 1885, the statement was made: "Twelve schools have provided what are called business courses covering but two years." Of these courses the agent said: —

This short course meets with little favor from pupils or teachers. I have found but one teacher who shows any decided interest in it. Fewer students choose it, and these, I have been told, are usually of the weaker sort. So far as the true end of high school instruction is concerned, I consider the course almost valueless.

Since this report was written business courses have increased greatly in number, and they have been strengthened in the length of time given to them, the severity of the requirements, the quality of the instruction, the appreciation and interest of the principal, and, in consequence, the character of the students pursuing them.

In his report on high schools, contained in the appendix to the sixty-ninth report of the Board of Education, Mr. J. W. MacDonald, agent, gave statistics showing the number of schools in which commercial branches were studied and the time given to each. He also discussed the relative value of these studies for the purposes of education.

In order to ascertain whether the business course in a public high school, which is avowedly a vocational course established to increase the wage-earning power of the students, can accomplish its purpose, and whether in doing so any interests of students must be sacrificed, I submitted to the principals of several high schools a few questions, to which they have kindly replied at considerable length. The facts contained in their letters not only furnish interesting testimony regarding the particular subject under discussion, but they also throw a strong light upon the more general problem of vocational training in the public schools.

The questions submitted were as follows:—

1. Do you think that the commercial course in your school has accomplished the ends sought in its establishment, namely, to increase the practical efficiency of the young persons who have pursued it?

2. By taking it have they sacrificed cultural training to such an extent as to make the net result loss in education rather than gain?

I should be glad to have as many specific illustrations of the influence and value of the course as you may be inclined to furnish.

The following are the replies received:—

LOWELL HIGH SCHOOL, LOWELL, MASS., Oct. 12, 1908.

DEAR MR. MARTIN:—In answer to your letter asking certain questions in regard to results in our commercial department, I beg leave to reply as follows:—

As to practical efficiency, our commercial department has been far more successful in training our pupils for immediate employment than I anticipated or prophesied at the time of its organization. Our boys get work at once. We cannot furnish boys with our complete commercial training (*i.e.*, those who have taken the four years' course) in sufficient numbers to meet the demands from Lowell business men. There is not so much demand for our girls, but they all get remunerative employment sooner or later.

The manager of a very large fire insurance office, who has employed high school graduates exclusively for many years, reports that since the introduction of our commercial instruction a great improvement in adaptability, efficiency and value to his office has been noticed. I have received similar reports from many business men.

A recent investigation shows wages to be from \$5 to \$8 a week at the start, with many getting \$12 to \$14 a week after one or two years' experience, while some of our earlier graduates are now earning much more. One of these graduates is now getting \$1,400 a year as a stenographer. This is, I think, the highest salary received by any of our graduates.

The introduction of the commercial course has increased our attendance. The entering class in this department numbers about 150 this year. An investigation elicits the fact that from 20 to 25 per cent. of these pupils would not have attended the high school but for the commercial course.

Has cultural effect been sacrificed? I do not believe the cultural effect or the mental training in this course is equal to that of the college preparatory course. The training does, I think, compare favorably with that in the general course. It must be remembered, too, that these 150 students, who have no chance of going to college, cannot be forced into the college preparatory course.

Fifty per cent. of the studies in the commercial course as arranged are the ordinary conservative studies of the general high school course, such as English, history, modern languages, mathematics and science. I believe that all these pupils who stay with us four years have been given a good stiff high school training.

The addition of the commercial department to our high school has accomplished a distinct educational gain for the youth of our community.

Very truly yours,

CYRUS W. IRISH, *Principal.*

ENGLISH HIGH SCHOOL, LYNN, MASS., Oct. 8, 1908.

MR. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

DEAR SIR:—Replying to your inquiry relative to the success of commercial courses in high schools, I would say that I *know* the commercial course in this school has greatly increased the practical efficiency of the young people who have pursued it. I am sure there are many other schools doing as good and no doubt better work than we are. During the past five years we have not been able to supply the demand that has come to us from the business and professional men of our own and neighboring cities for clerical assistants in various lines. In fact, during this time every graduate of the school who was willing to accept a position has been happily placed before the November following his graduation, and every year we could have placed a score more if we had had them.

You asked for specific instances, and among them I might mention that the present stenographer to the mayor is one of our graduates, as also the recently selected stenographer for the office of the school department. A boy was allowed to leave school the week before graduation to become stenographer for the second vice-president of the Boston & Maine Railroad. A boy in the class of 1907 went immediately into the office of the auditor of accounts in the Boston & Maine Railroad as stenographer. Several others have recently been placed in similar positions in various offices of the Boston & Maine Railroad. A young lady went immediately from graduation into the office of the Massachusetts Nautical Training School Commission, and was later employed in the office of the Harbor and Land Commission at the State House, until we took her into our own office as clerk and stenographer. Another graduate is teacher of typewriting in this school. A young man immediately after graduation became head bookkeeper for the — Shoe Manufacturing Company. A young lady became bookkeeper and stenographer at once after graduation for the — Dry Goods Company. Two went immediately from last year's class to positions as stenographers in the General Electric Company. . . . The most capable girl in charge of their office that the — Shoe Company ever had, according to their statement, was one of our graduates. The bookkeepers of the — Bank and the — Bank who went into these institutions as assistants are also graduates of our school. A young lady became bookkeeper for — & Co., plumbers, immediately after graduation. Another young man is now court stenographer in Los Angeles, Cal.

I might continue this list to fill many volumes, as our graduating class each year numbers from 90 to 125, and a little more than half of these are graduates of the commercial course.

In regard to the effect of the commercial course on the general education of those who elect that course, I would say that the course covers four years, and these pupils take, in common with all pupils of the school and in the same classes, the studies that usually constitute the foundation of a high school course, such as English language and literature, French, Spanish, German, science, history, algebra and civics, and in all of these subjects they maintain a thoroughly satisfactory standing, as compared with other pupils. For the past five years the commercial pupils have constituted 51 per cent. of our enrollment. Pupils averaging above 85 per cent. in scholarship for the entire course are classed by us as "honor graduates."

During these five years of which I have been making a special study, 58 per cent. of the honor graduates have been in the commercial course, which seems to me to answer your second question as far as this school is concerned, especially as during these years we have sent from 10 to 20 pupils to college every year. Two of our commercial graduates are now in Dartmouth, assisting themselves financially by use of their stenography. Another graduate of the course has just graduated from the Massachusetts Institute of Technology with a notably high standing. The school is on the College Entrance Certificate Board's list of approved high schools, and in our second term of approval. . . .

This reply is somewhat rambling, I am aware, because I am not wholly sure in what way I can best answer your question for the use you have in mind; but if there is anything more definite that you wish to know, I will gladly answer to the best of my ability.

Very truly yours,

C. S. JACKSON, *Principal.*

ENGLISH HIGH SCHOOL, WORCESTER, MASS., Oct. 5, 1908.

MR. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN:—In answer to your note of September 22, in regard to commercial departments in high schools, I would say:—

I do think that the commercial course in this school has accomplished the ends sought in its establishment, namely, to increase the practical efficiency of the young persons who have pursued it; and by taking it they have not sacrificed cultural training to such an extent as to make the net result loss in education rather than gain.

A pupil who does the work of the commercial department in this school well is fitted to go to work along the lines implied in the name, *i.e.*, in bookkeeping and stenography and typewriting. We have more calls for pupils to fill places than we can supply, especially in the case of boys. This last year is an exception, for good reasons.

Here are a few specific instances. A girl in the class of 1907

started at once in an office as stenographer and bookkeeper, salary \$8 a week, in three months raised to \$10. Three sisters graduating in different years went into the office of the — Store in this city, at salaries of \$8 to \$10 per week, soon increased to \$12. One of them is now getting \$15 per week in another office. A boy who graduated last June got a job as shipping-clerk at once, at \$10 per week. A boy who graduated about ten years ago was soon receiving \$3,000 a year as secretary and treasurer of a manufacturing company,— a place he attained by merit only. A girl who graduated here about five years ago was private secretary for President — of — University. Her physical strength was not equal to the work of that position. She is now private secretary of President — of the — Institute. She took the civil service examination at the State House last spring, I am told, and passed with an average of 95 per cent. in the most rapid tests. One of the local printing offices has two of our girls in its business office, and another has three; one of the insurance offices, three, the office of the insane asylum, three or four. Some of our graduates in the commercial department are teaching the same subjects here or elsewhere.

The above are some of the cases that have been mentioned to me by the teachers in this department; I could give you many more. A good many business men in this city want high school girls in preference to any other.

As you will see by a copy of our course of study, which I enclose, cultural studies are not neglected. Every pupil who graduates from this school must have taken English, four years, five recitations per week; algebra, one year, five recitations per week; plane geometry, one year, five recitations per week; physics, one year, five recitations per week, except in the art course, where botany or zöology may be substituted; and history, ancient, medieval, English, or United States, one year, as above. So you will see that half of the subjects required for graduation (sixteen points in all) are required. Of the other eight points, one is commercial arithmetic (three recitations per week) and commercial geography (two recitations per week), not begun until the second year, and two each in stenography and in bookkeeping during the third and fourth years. A pupil is not required to take both stenography and bookkeeping, but may take either or both, as he chooses. The remaining points are selected from other subjects in the course. The teachers of physics in the third year find that pupils who have had commercial arithmetic in the second year can generally do the arithmetical part of physics—the problems—more easily and correctly.

I think it may be true that in schools where pupils are allowed to begin stenography and bookkeeping in the first year of a three years' course, and can graduate without having had any algebra or geometry and little English,— and there are schools of that sort even in Mas-

sachusetts, I believe. — the complaint of inefficiency to which you refer is well grounded. One of my teachers says: "A commercial course makes it possible for the student to realize both the utilitarian and the cultural value of education."

Please do not hesitate to ask me for any further information along this line or any other. I shall be glad to be of any help to you.

Yours truly,

JOSEPH JACKSON, *Principal.*

BEVERLY HIGH SCHOOL, BEVERLY, MASS., Sept. 25, 1908.

Mr. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN: — I have yours of September 22. . . . The commercial course in our school has not only accomplished the ends sought in its establishment, but has proved even more efficient and successful than we could have hoped. Our commercial course has been so arranged and planned that students taking this course are required to do just as much and even in some cases more work than is required in other courses. There certainly has been no loss in educational training.

I enclose a report from Mr. Gaylord, head of our commercial department, on specific illustrations of the influence and value of our commercial training in the high school.

Very truly yours,

B. S. HURD, *Principal.*

BEVERLY, MASS., Sept. 24, 1908.

Mr. B. S. HURD, *Beverly, Mass.*

DEAR MR. HURD: — In answer to your request that I suggest some specific illustrations of the influence and value of the commercial course in the Beverly high school, as, in turn, requested by Mr. George H. Martin of the Massachusetts Board of Education, I submit the following: —

Miss — —, a graduate of the class of 1902, took most of our commercial course, and began work with — —, at \$6 per week. She was promoted from time to time, and in 1904 went to the — — Company, at \$10 per week. Her last report to me, about one year ago, said that she was then receiving \$14 per week.

Miss — —, a member of the class of 1902, soon after graduating went to the — — Life Insurance Company, where, when she last reported to me, she was receiving \$15 per week. Her sister, Miss — —, was placed during the summer following her graduation with the — — Messenger Company, and when I heard from her last she was receiving \$12 per week.

Mr. — —, a member of the same class, went to the — — Com-

started at once in an office as stenographer and bookkeeper, salary \$8 a week, in three months raised to \$10. Three sisters graduating in different years went into the office of the — Store in this city, at salaries of \$8 to \$10 per week, soon increased to \$12. One of them is now getting \$15 per week in another office. A boy who graduated last June got a job as shipping-clerk at once, at \$10 per week. A boy who graduated about ten years ago was soon receiving \$3,000 a year as secretary and treasurer of a manufacturing company, — a place he attained by merit only. A girl who graduated here about five years ago was private secretary for President — of — University. Her physical strength was not equal to the work of that position. She is now private secretary of President — of the — Institute. She took the civil service examination at the State House last spring, I am told, and passed with an average of 95 per cent. in the most rapid tests. One of the local printing offices has two of our girls in its business office, and another has three; one of the insurance offices, three, the office of the insane asylum, three or four. Some of our graduates in the commercial department are teaching the same subjects here or elsewhere.

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sachusetts, I believe, — the complaint of inefficiency to which you refer is well grounded. One of my teachers says: "A commercial course makes it possible for the student to realize both the utilitarian and the cultural value of education."

Please do not hesitate to ask me for any further information along this line or any other. I shall be glad to be of any help to you.

Yours truly,

JOSEPH JACKSON, *Principal*.

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Mr. — —, a member of the same class, went to the — — Com-

pany about the middle of his last year in our course (owing to his very rapid progress), at \$10 per week. From there he was taken by the —, at \$12 per week, and then went as private secretary to the president of the Electric Heat, Light and Power Company at —, at \$15 per week. From this position he went to another with an electrical supply house, at the same salary, in order to get a variety of experience and an opportunity for promotion. After reaching the limit of salary here, he accepted his present position as office man and travelling salesman for the — Company. When he last reported to me, about one year ago, he was receiving \$1,000 per year and travelling expenses. He has also been in charge of the typewriting instruction in the evening sessions of the Central Y. M. C. A., —, for two or three years, and beginning next month he will be in charge of the shorthand and typewriting in that institution.

Mr. — —, a short time before commencement, in 1904, went to the — Company, with which company he has since been employed, first as bill clerk and assistant cashier in the Boston office, then as auditor in the Philadelphia office for one winter, and subsequently, until very recently, as auditor in the Charleston, S. C., office. He is now in the treasurer's office in Boston. The last time he reported to me he was receiving \$20 per week.

Miss — — began work with —, manufacturers, in —, at \$8 per week, but in about one year after leaving school she engaged with the — Mills, at \$15 per week. She is still there.

Mr. — — was employed in — for one year following his graduation, as stenographer for a large shoe manufacturing concern, at \$8 per week. At the end of the year his salary was increased to \$10, but I was able to bring to his attention, at the same salary, a position with the — Machinery Company of —. He took the position, and has been promoted since, until he is now in charge of the stenographic force; and when he reported to me about a year ago he was receiving \$16 per week.

Mr. — —, soon after graduation, engaged with the — Company of — as a clerk and bookkeeper, at \$8 per week, employing his evenings in writing advertising, the outgrowth of some special work in the commercial English class, thus increasing his income. He is now assistant cashier in the office in which he has been working, and receives \$18 per week.

Of the class of 1905, Miss — —, after working with various firms for about a year, took her present position in the — building, at a salary approximating \$12 per week. She has a very responsible position, and at certain seasons of the year is allowed to sell material for her employers in carload lots during their absence, using her judgment as a business man would do in handling the business that comes up.

Mr. — — began with the — Company of —, and then went to the office of the master mechanic of the Eastern Division of the Bos-

ton & Maine, at —, at \$10 per week, being promoted from that position to a position in the office of the superintendent of motive power of the Boston & Maine at the North Station. He has recently resigned his position there, where he was receiving \$50 per month, to become private secretary to —.

I may also mention Miss — —, who went first to the State Institution for —, and after a year or so was engaged by the — Life Insurance Company as a stenographer, being promoted from time to time, until for nearly two years she has given up stenography and is devoting her whole time to examining mortgages offered as security for loans, in order to determine the correctness of the form of these securities. She told me some time ago that she was receiving \$18 per week, with a prospect of her being paid at least \$25 per week within a reasonable time.

I call your attention, also, to the fact that practically every one of these young people is a child of a poor family, — that is, of a family that needed the help which the income from these positions provides. In one instance in particular it has developed recently that the income thus produced was practically the sole source of support for a family for two or three years, while the younger members of the family were being put through our schools.

E. E. GAYLORD.

THE TECHNICAL HIGH SCHOOL, SPRINGFIELD, MASS., Oct. 8, 1908.

HON. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN: — I have already replied briefly to your letter of September 22, referring to the statement that the work of commercial departments in high schools has been unsatisfactory both in technical efficiency and in general educational results; but I am now ready to reply to your inquiries more specifically.

Some justification for the criticism can undoubtedly be found in the very large number of schools in which commercial work has been done on the department plan; but I believe this criticism should be qualified by an examination into and an acknowledgment of the conditions under which commercial work is done. Almost invariably it will be found that the unsatisfactory work has been done under unfair conditions. When added to the already crowded classes of a high school in which provision cannot easily be made for suitable rooms and appliances, it is most natural that commercial work should be side-tracked. It is often consigned to the attic or the basement or to some corner in the corridor, since every other available space is needed for the older courses in the school. Even when it is not seemingly necessary to impose upon commercial work mechanical conditions which are manifestly inferior to those under which the long-established courses are carried on, the work may suffer from a wrong attitude toward it on

the part of the principal of the school and the teachers of traditional subjects. It is not unnatural that principals and teachers of the old-school type should look upon this work as being less cultural, and, from their point of view, therefore less educational, and so of secondary importance to the old-line studies. The unsatisfactory results are due not so much to the faulty equipment in rooms and appliances which commercial departments have to put up with, sometimes necessarily, as to lack of interest and enthusiasm on the part of the school management. If this work is an unwelcome addition to the school program, or if it is taken in gladly enough, but with the idea that it is designed only for an inferior order of pupils, the work is naturally placed at the outset upon a low plane. Such a policy results in an inferior teaching force, and in establishing a drift towards this work of pupils of inferior ability. I have known instances where this spirit has prevailed in large schools, with the result that a better class of pupils really desiring commercial work were allowed to maintain their enrollment in other courses in the school, electing only a few distinctive branches from the commercial course, which were only given in that course. These pupils, though desiring commercial training, were encouraged to plan to graduate from courses in the school presumed to be of higher standing. Such a school should be criticized for not giving its commercial course a fair chance, and it should not be taken as justifying a criticism against commercial work in high schools as such.

Commercial high school departments are successful when and only when the policy under which this work is done is as sound as that which underlies the work of the older successful school departments, and is administered with wisdom and zeal. It cannot be made successful by teachers whose general training and culture could not classify them as high school teachers, whose special commercial training is defective, and who have little appreciation of the value of culture, special training and general fitness for teaching. If there be added to this not unusual equipment of a commercial department a disposition on the part of the management to dump into such a department as much of the poor-student material of the school as possible, the conditions for unsatisfactory commercial work are quite perfect. It is not surprising that business men find fault with the product of commercial work carried on in an unbusinesslike way. If such a policy were followed in college preparatory departments, we should very quickly hear from the colleges. College admission examinations may furnish a comparatively prompt test of the efficiency of high school preparation; but the trial of graduates from the commercial departments in actual business is a no less sure test. I am glad that I can say that business men who have taken the graduates from our commercial department have in many instances come to us repeatedly for other graduates to go into their service.

The head of our commercial department, Mr. Carlos B. Ellis, has

prepared a detailed statement which I think justifies our claim for the efficiency of the commercial work in the Technical High School. I am very glad to make this statement a part of my report by simply forwarding it in the exact form in which it comes to me.

Very respectfully yours,

CHAS. F. WARNER, *Principal.*

The question, "Have the results justified the introduction of the commercial course in Springfield?" may be answered in three ways:—

First.—Do the graduates find employment readily? During the fall of 1907 a questionnaire was sent to each graduate of the commercial department, in order to obtain exact information concerning their employment and earnings. The two following tables give the facts in regard to employment:—

YOUNG MEN GRADUATES.

Number graduated,	76
Number employed:—	
In business for self,	4
In business with father,	2
Working for others,	56
	— 62
Number in college,	1
Number sick,	1
Number out of work,	2
Number who did not reply,	10 ¹
	— 76

YOUNG WOMEN GRADUATES.

Number graduated,	151
Number in business offices,	106
Number teaching,	3
Number in school,	2
Number helping at home,	3
Number ill,	2
Number unemployed,	6
Number married,	20
Number who did not reply,	9 ²
	— 151

Second.—Do the earnings of these graduates indicate that their technical training has any special value? At about the same time that the questionnaire was sent to the graduates of the commercial department, another questionnaire was sent to representative business houses of the city, including mercantile establishments, manufacturing concerns, publishing houses, banks and insurance offices. The purpose

¹ Of the 10 who did not reply, 2 are in business for themselves and 3 have good positions; the whereabouts of the other 5 are not known.

² Of the 9 who did not reply, 1 is married and 3 have good positions; the whereabouts of the other 5 are not known.

of this questionnaire was to ascertain the average salaries paid by employers in this city for office help of all kinds without experience, and the average salaries paid after an experience of at least three or four years. The different kinds of employment were classified as follows: bookkeepers, stenographers, office clerks and salesmen.

The question is not whether the salaries paid to graduates of the commercial department are high or low as compared with other cities, but whether these salaries are high or low as compared with the general standard of salaries in the city of Springfield. The following table gives the results of this comparison:—

SALARIES OF PEOPLE WITHOUT OFFICE EXPERIENCE.

	Boys.	Girls.
Average salaries of graduates of the commercial department, without experience.	\$386 90	\$337 70
Average salaries paid by the business houses of Springfield to persons ¹ of the same age, without experience.	349 96	314 60
Difference in favor of the school,	\$36 94	\$23 10

SALARIES OF PEOPLE WITH AT LEAST THREE YEARS' EXPERIENCE.

	Men.	Women.
Salaries of the classes of the commercial department who have been out of school at least three years.	\$953 71	\$602 96
Average salaries paid by the business houses of Springfield for the same kinds of work to people ¹ who have had at least three years' experience.	731 64	534 56
Difference in favor of the school,	\$222 07	\$68 30

¹ Not graduates.

The difference is not so marked in the case of the young women graduates, for the reason that the positions paying the highest salaries are not open to them.

The following tables are also of interest, as showing the earnings of the several classes:—

YOUNG WOMEN GRADUATES.

CLASS.	Years since graduation.	First salary (averages).	Present salary (averages).	Yearly increase (averages).
1900,	7½	\$331 44	\$766 38	\$57 96
1901,	6½	351 73	511 50	24 58
1902,	5½	306 00	637 00	60 19
1903,	4½	352 83	575 71	49 52
1904,	3½	312 00	523 71	60 19
1905,	2½	363 62	505 71	56 83
1906,	1½	346 64	428 46	54 53
1907,	½	337 34	355 35	36 00
Averages,	4	\$337 70	\$537 98	\$50 02

YOUNG MEN GRADUATES.

CLASS.	Years since graduation.	First salary (averages).	Present salary (averages).	Yearly increase (averages).
1900,	7½	\$308 50	\$1,100 00	\$105 53
1901,	6½	426 40	994 40	87 39
1902,	5½	321 20	969 80	117 93
1903,	4½	368 67	891 33	116 15
1904,	3½	379 14	813 00	123 91
1905,	2½	517 33	735 33	87 20
1906,	1½	381 33	617 33	157 33
1907,	½	392 64	461 00	136 72
Averages,	4	\$386 90	\$822 77	\$116 52

Attention is especially called to the fact that the young women have received an average annual increase in salary of \$50.02, and the young men an annual increase of \$116.52; also, that these increases were continued up to the date of the investigation, so that there is no reason to suppose that these classes have reached their maximum earning capacity. The tables certainly indicate that these graduates have made good.

The following table shows the results of the questionnaire in regard to salaries, which was sent to business men in Springfield:—

SALARIES OF PEOPLE WITHOUT OFFICE EXPERIENCE.

	Boys.	Girls.
Bookkeeping department,	\$7 44	\$6 38
Stenographers,	7 50	7 00
General office work,	5 48	5 56
Salesmen,	6 50	5 25
Average per week,	\$6 73	\$6 05
Average per year,	349 96	314 60

SALARIES OF PEOPLE WITH AT LEAST THREE YEARS' EXPERIENCE.

	Men.	Women.
Bookkeeping department,	\$14 86	\$11 00
Stenographers,	16 00	11 20
General office work,	10 60	9 43
Salesmen,	14 83	9 50
Average per week,	\$14 07	\$10 28
Average per year,	731 64	534 56

In the above table the two groups of bookkeepers and stenographers are the only groups where special training is a prerequisite, as it is quite possible for young people to enter upon the duties of general office work or salesmen without any special training.

If the figures for these two groups are compared, the following results will be obtained:—

AVERAGE WEEKLY BEGINNING SALARIES.

	Boys.	Girls.
Bookkeepers and stenographers,	\$7 47	\$6 69
Clerks and salesmen,	5 99	5 40
Difference per week,	\$1 48	\$1 29
Difference per year,	76 96	67 08

AVERAGE WEEKLY SALARY FOR PEOPLE WITH AT LEAST THREE YEARS' EXPERIENCE.

	Men.	Women.
Bookkeepers and stenographers,	\$15 43	\$11 10
Clerks and salesmen,	12 71	9 46
Difference per week,	\$2 72	\$1 64
Difference per year,	141 44	85 28

This table shows that on an average bookkeepers and stenographers receive better pay, both at the start and after they have acquired experience, than general clerks and salesmen. It may be said that one can learn bookkeeping in an office, and that this table does not necessarily prove that this vocational training has any special value, but this will not explain the initial differences.

No one will claim that one can be a stenographer without special training, and from the table on the preceding page it will be seen that stenographers receive better salaries than those in any other group, both at the beginning and after they have acquired experience; and in this one case at least it cannot be disputed that the vocational training has prepared them for these better salaries.

Third. — What do business men say of the graduates of the commercial department? The following quotations are extracts from letters from representative men of the city: —

One of the largest publishing houses says: "We have had experience in hiring many stenographers, especially during the last few years, and whenever we are not obliged to fill a place with a stenographer who has had several years' actual office experience we always try to get a graduate of the Springfield high school."

One of the largest mercantile houses, which has employed several graduates of the commercial department, says: "Without an exception all have given entire satisfaction. Their work shows thorough training, not only in the capacity of stenographers, but in the little details which add so much to make office work run smoothly. They show thorough training not only in their desk work, but also give evidence of good mental training outside of this."

Summary. — Excluding the 19 graduates who have not replied to the questionnaire, we have shown that out of the 208 other graduates there were only 11 who were out of employment at the time of the investigation, and 3 of these were ill and unable to work.

We have also shown that the initial salaries of these graduates are greater than the average salaries paid to people of the same age, without experience, in the city of Springfield; and also that the salaries paid to these graduates after they have acquired at least three years'

experience are materially greater than the general average paid to people of experience in this city. In the case of the young women, the difference in favor of the school is \$68.30, or 12 per cent., more than the average; in the case of the young men, the difference is \$222.07 in favor of the school, or 30 per cent. more than the general average.

We have also given quotations from some of the leading business men of Springfield, showing their personal appreciation of these graduates.

Doubtless there are some who still believe that any good high school course would give all necessary training for most business positions, or that technical training should be given, if at all, only as a part of a college course. In answer we can only say that this view does not make any provision for the large number of pupils who would not take a high school training if these vocational subjects were not offered.

CARLOS B. ELLIS.

BROCKTON HIGH SCHOOL, BROCKTON, MASS., Oct. 28, 1908.

MR. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN:—Your letter making an inquiry regarding my opinion of the value or success of the commercial department in the high school, and in particular of the one in my own school, has been received.

In my opinion, the statement to which you refer, that such instruction had proved a failure, is not warranted by the facts here in Massachusetts. I am very sure that the commercial course in the English high school at Somerville and the course here in Brockton are accomplishing in a large way the ends sought in the establishment of such courses. I do not mean to say that they are perfect courses, but I do believe that the practical efficiency of the young people who have taken such courses has been decidedly increased.

In the schools over which I have had charge the pupils have not sacrificed cultural training to such an extent as to make the net result a loss rather than a gain in education, for a four years' course in English and history and a two years' course in mathematics have been required of all such pupils, in addition to commercial work. They have also been urged to take courses in language, science, manual training, mechanical drawing, etc., and a large proportion of our pupils have taken such courses.

I can conceive of courses in some schools which have been blocked out as commercial courses for the purpose merely of providing studies such as one might obtain in some commercial colleges, being narrow, and sacrificing cultural training. We have always distinctly avoided that line of commercial preparation.

I could furnish many special illustrations of the influence and value of the courses which have been provided both in Somerville and Brock-

ton. My experience of eleven years in Somerville, particularly, could furnish many of these illustrations.

I had more applications from the city of Boston for pupils trained in the Somerville English high school than I could fill; and it is noticeable here in Brockton that the applications are greatly in excess of the supply.

Very truly yours,

C. T. C. WHITCOMB, *Head Master.*

THE HIGH SCHOOL, REVERE, MASS., NOV. 13, 1908.

MR. GEORGE H. MARTIN, *Secretary, State Board of Education, Boston, Mass.*

MY DEAR MR. MARTIN: — Several weeks ago you wrote to me in regard to the value of commercial training in the Revere high school. On receipt of your inquiry I sent out a letter of inquiry to a number of the graduates of the high school here, and have lately received the last answer to my questions.

I can sum up the testimony of our graduates and my own observation by saying that the really worthy pupils who complete our commercial course find little difficulty in securing and holding good positions. Those from whom I heard are now receiving from \$8 to \$12 per week as stenographers and bookkeepers. None of them have been at work over three years. I believe the commercial training has been a decided advantage to these young people. One of the young ladies writes to me as follows: "I have a very fine position, and of course owe it all to my education received at the Revere high school, and I am very glad I took up the commercial course."

I may say for myself that I strongly believe in the commercial work in high schools. The work in this department must, I think, be treated with as much respect as that in any other department, if it is to be successful.

Yours very truly,

FRANK P. MORSE, *Principal.*

TEACHERS' INSTITUTES.

The statistics of the regular institutes for 1908 are as follows:—

WHERE HELD.	Date.	Number of towns represented.	Number of members.	Number of exercises.
Ayer, ¹	Nov. 6,	10	128	10
Charlemont,	Jan. 21,	5	125	4
Chicopee,	April 24,	7	127	13
Dighton,	April 22,	8	85	8
Franklin,	April 27,	11	153	13
Great Barrington,	Feb. 10,	3	125	4
Greenfield,	May 12,	7	165	13
Hudson,	May 6,	11	197	13
Huntington,	April 22,	8	65	11
Ipswich,	April 29,	10	113	13
Lunenburg,	Feb. 26,	7	161	5
Middleborough,	May 1,	14	177	13
North Andover,	May 8,	10	181	13
Orange,	April 30,	11	89	13
Pittsfield,	April 21,	30	500	11
Scituate,	April 24,	10	141	13
Sheffield,	Feb. 10,	4	85	4
Shelburne Falls,	April 28,	9	62	13
Southwick,	Feb. 12,	4	115	6
Stoughton,	May 4,	13	241	13
Ware,	May 8,	9	187	13
Totals (21),	—	202	3,222	219

¹ United with the Northwest Middlesex County Teachers' Association meeting.

EVENING SCHOOLS.

For details of evening school attendance, number of teachers, expenditures, etc., reference should be made to page xvii of the abstract of the school returns.

The following table shows what is being done in the State to furnish instruction beyond the elements in evening schools: —

CITIES AND TOWNS.	High.	Drawing.	Technical.	CITIES AND TOWNS.	High.	Drawing.	Technical.
Adams,	-	-	-	Medford,	1	1	-
Attleborough,	-	-	-	Milford,	-	-	-
Beverly,	2	3	2	New Bedford,	-	-	2
Boston,	5	6	-	Newburyport,	-	-	-
Brockton,	1	2	-	Newton,	-	1	-
Brookline,	-	1	2	North Adams,	-	1	-
Cambridge,	1	2	1	Northampton,	-	-	-
Chelsea,	-	-	-	North Attleborough,	-	-	-
Chicopee,	-	1	-	Northbridge,	-	-	-
Clinton,	-	1	-	Norwood,	1	-	-
Dudley,	•	-	-	Peabody,	-	-	-
Easthampton,	-	-	-	Pittsfield,	2	2	-
Everett,	-	1	2	Plymouth,	-	-	-
Fall River,	2	2	-	Quincy,	-	1	-
Fitchburg,	-	-	-	Rockland,	-	-	-
Framingham,	-	-	-	Salem,	-	1	-
Gardner,	-	-	-	Somerville,	1	-	-
Gloucester,	-	-	-	Southbridge,	-	-	-
Grafton,	-	-	-	Spencer,	-	-	-
Greenfield,	-	-	-	Springfield,	1	1	1
Hatfield,	-	-	-	Taunton,	1	3	-
Haverhill,	1	1	2	Wakefield,	-	-	-
Holyoke,	1	-	1	Waltham,	1	1	1
Hyde Park,	-	1	-	Warren,	-	-	-
Lawrence,	1	1	-	Webster,	-	-	-
Leominster,	-	-	-	Westfield,	-	-	-
Lowell,	1	15	-	Woburn,	-	1	2
Lynn,	-	1	-	Worcester,	1	3	1
Malden,	-	1	-		24	55	17
Marlborough,	-	-	-				

KINDERGARTENS.

Table showing the number and location of public kindergartens kept during the school year ending in June, 1907, and cost of their maintenance.

CITIES AND TOWNS.	Number of public kindergartens.	Number of teachers.	Number of different pupils.	Minimum age at which pupils are admitted.		Cost.
				Yrs.	Mos.	
Andover, . . .	3	3	97	4	-	\$2,081 40
Attleborough, . . .	2	3	95	4	-	1,737 61
Boston,	108	210	7,170	3	6	158,574 67
Braintree,	4	4	145	4	-	1,740 00 .
Bridgewater,	1	2	41	3	6	1,500 00
Brookline,	11	20	473	3	2	16,226 37
Cambridge,	16	31	919	3	6	19,998 22
Chelsea,	2	2	104	5	-	1,270 00
Chicopee,	2	2	60	3	-	1,010 00
Dedham,	4	7	154	4	-	2,400 00
Easton, ¹	1	2	52	3	-	725 00
Fall River,	3	6	172	3	-	3,405 29
Falmouth,	1	1	20	4	-	500 00
Framingham,	2	3	79	3	6	2,000 00
Greenfield,	2	2	45	4	-	650 00
Haverhill,	10	9	479	3	10	5,520 00
Holyoke,	8	16	502	4	6	7,951 92
Hopedale,	1	1	24	4	-	923 37
Lee, ²	1	2	41	3	-	550 00
Lowell,	13	25	720	3	6	16,801 56
Manchester,	1	2	51	3	6	975 00
Marblehead,	2	4	104	4	-	1,258 57
Medford,	6	5	231	4	-	3,400 00
Milton,	4	7	148	3	6	4,800 00
New Bedford,	4	8	235	4	-	4,482 64
Newton,	19	30	782	4	-	17,139 66
North Adams,	5	11	278	4	-	4,000 00
Northampton,	6	7	178	4	-	4,098 14

¹ Supported by Oakes Ames fund.² Partly supported by private individuals.

Number and location of public kindergartens, etc. — Concluded.

CITIES AND TOWNS.	Number of public kindergartens.	Number of teachers.	Number of different pupils.	Minimum age at which pupils are admitted.		Cost.
				Yrs.	Mos.	
Oak Bluffs, . . .	1	1	35	5	—	\$442 00
Pittsfield, . . .	3	6	169	4	—	2,825 00
Salem,	5	10	301	4	—	4,713 00
Somerville, . . .	4	8	410	4	—	3,956 03
Springfield, . . .	14	30	1,143	4	—	15,824 76
Waltham,	4	7	103	4	6	—
Wellesley,	1	2	24	—	—	589 16
Westfield,	4	8	130	4	6	2,000 00
West Springfield, .	3	2	118	4	6	835 20
Winchester,	2	4	80	4	—	1,505 27
Worcester,	26	37	1,345	4	—	23,310 10
Totals,	309	540	17,257	3 to 5 yrs.		\$341,719 94

VACATION SCHOOLS, 1907.

CITIES AND TOWNS.	NUMBER OF —			Average length of schooling.		Total expenditure for support of schools.
	Schools.	Teachers.	Pupils.	Mos.	Days.	
Athol,	1	5	36	—	15	\$42 00
Attleborough, . . .	2	4	114	1	8½	244 51
Boston,	10	148	9,082	1	—	5,544 80
Brookline,	3	12	789	1	10	1,761 46
Cambridge,	5	29	1,298	1	5	1,913 39
Haverhill,	3	30	1,250	1	5	902 04
Lawrence,	5	26	979	1	—	727 93
Manchester,	2	2	34	1	10	130 00
Medford,	1	5	135	1	5	150 00
Milford,	1	3	128	1	10	138 00
Newton,	1	14	514	1	10	882 96
Totals,	34	278	14,359	1	8½	\$12,437 09

STATE AID FOR HIGH SCHOOLS.

Towns containing 500 families are required to maintain high schools. Other towns may maintain such schools, and if approved by the Board of Education may receive State aid to the amount of \$500.

The following 44 towns, having complied with the conditions, were entitled to receive the \$500 grant in 1908. Twenty-six towns received the grant in 1903, 34 in 1904, 36 in 1905, 37 in 1906, and 40 in 1907. The towns added to the list this year are Charlemont, Douglas, New Marlborough and Shirley.

Ashby,	Huntington,	Sandwich,
Ashfield,	Littleton,	Sharon,
Ashland,	Lunenburg,	Sheffield,
Avon,	Medfield,	Shelburne,
Bernardston,	Mendon,	Shirley,
Bolton,	Millis,	Shrewsbury,
Charlemont,	New Marlborough,	Southborough,
Charlton,	New Salem,	Stow,
Chester,	Northborough,	Sudbury,
Conway,	Northfield,	Tisbury,
Douglas,	Norwell,	West Boylston,
Edgartown,	Orleans,	West Newbury,
Essex,	Petersham,	Wilmington,
Granby,	Plainville,	Wrentham. — 44
Hadley,	Rutland,	

REIMBURSEMENT FOR HIGH SCHOOL TUITION.

Towns having less than 500 families, and not maintaining a high school, must make provision for high school instruction in other towns. They may be reimbursed by the State for one half or for the whole of the cost of such instruction. The high schools to which children are sent must be approved by the Board of Education.

Under the provisions of the law, 97 towns sending 1,114 pupils were reimbursed wholly or in part by the State. The number of towns is the same and the number of pupils 53 more than last year. The amount distributed by the State for their tuition was \$38,808.43. The total obligation of the State for high school aid was \$60,808.43.

Only 9 towns have no children in high schools. The average membership of all the elementary schools in these towns is 464.

Table showing high school tuition reimbursements under section 3, chapter 42, Revised Laws, as amended by chapter 433, Acts of 1902.

[NOTE.—Towns the names of which are italicized were reimbursed by the State for half tuition expenditures only.]

Towns.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Acushnet, . . .	18	Fairhaven, . . .	\$75 00	\$1,260 00
“ . . .	1	New Bedford, . . .	{ 82 50 75 00 }	} 78 00
Alford, . . .	7	Great Barrington (Searles), .	54 00	378 00
<i>Auburn</i> , . . .	19	Worcester (English), . . .	60 00	472 50
“ . . .	1	Worcester (Classical), . . .	60 00	30 00
Becket, . . .	12	Chester, . . .	50 00	495 00
“ . . .	2	Westfield, . . .	50 00	70 00
<i>Bedford</i> , . . .	43	Concord, . . .	48 00	1,000 00
<i>Bellingham</i> , . . .	9	Milford, . . .	38 00	171 00
“ . . .	23	Franklin, . . .	30 00	283 13
Berkley, . . .	8	Taunton, . . .	50 00	358 75
“ . . .	2	Fall River, . . .	60 00	90 00
Berlin, . . .	1	Northborough, . . .	30 00	30 00
“ . . .	8	Hudson, . . .	40 00	261 00
“ . . .	17	Clinton, . . .	40 00	656 00
Blandford, . . .	1	Springfield (Central), . . .	75 00	30 00
“ . . .	6	Westfield, . . .	50 00	280 00
“ . . .	3	Huntington, . . .	45 00	63 26
“ . . .	1	Chester, . . .	50 00	50 00
Boxborough, . . .	5	Concord, . . .	48 00	240 00
“ . . .	2	Littleton, . . .	30 00	60 00
Boylston, . . .	3	Worcester (English), . . .	60 00	180 00
“ . . .	2	Worcester (Classical), . . .	60 00	120 00
“ . . .	2	Clinton, . . .	40 00	59 00
“ . . .	1	Northborough, . . .	30 00	30 00
Buckland, . . .	51	Shelburne Falls (Arms Academy).	36 00	1,746 00
Carlisle, . . .	1	Lowell, . . .	60 00	60 00
“ . . .	3	Concord, . . .	48 00	144 00
“ . . .	1	Chelmsford (Centre), . . .	24 00	16 00

High school tuition reimbursements, etc. — Continued.

Towns.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Cheshire,	1	North Adams,	\$45 00	\$45 00
“	15	Adams,	30 00	440 00
Chesterfield,	2	Springfield (Central),	75 00	150 00
Clarksburg,	11	North Adams,	45 00	435 00
Colrain,	5	Greenfield,	30 00	123 00
“	29	Shelburne Falls (Arms Academy). Ashfield,	36 00	912 00
Cummington,	5	Ashfield,	30 00	150 00
“	10	Northampton,	50 00	500 00
Dunstable,	1	Lowell,	60 00	60 00
Eastham,	19	Orleans,	32 00	547 20
East Longmeadow,	8	Springfield (Central),	75 00	472 50
“ “	15	Springfield (Technical),	75 00	1,072 50
Egremont,	5	Great Barrington (Searles),	54 00	252 00
Enfield,	14	Athol,	36 00	467 00
“	2	New Salem,	30 00	35 00
Erving,	6	Orange,	40 00	120 00
“	6	Montague (Turners Falls),	30 00	77 37
“	1	Athol,	36 00	18 00
“	7	Greenfield,	30 00	97 50
Florida,	3	North Adams,	45 00	135 00
“	1	Charlemont,	45 00	15 00
Freetown,	2	New Bedford,	{ 82 50 75 00 }	{ 78 00
“	16	Fall River,	60 00	442 50
Gay Head,	1	New Bedford,	{ 82 50 75 00 }	{ 80 14
Gill,	7	Montague (Turners Falls),	30 00	186 75
“	2	Bernardston (Powers Institute). Williamsburg (Centre),	21 00	42 00
Goshen,	3	Williamsburg (Centre),	26 00	65 00
“	3	Ashfield,	30 00	71 25
“	1	Amherst,	35 00	14 40
Granville,	3	Westfield,	50 00	125 00
“	1	Springfield (Technical),	75 00	30 00
Greenwich,	4	Athol,	36 00	115 10

High school tuition reimbursements, etc.—Continued.

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Greenwich, . . .	3	New Salem, . . .	\$30 00	\$70 00
Halifax, . . .	2	Bridgewater, . . .	50 00	100 00
Hampden, . . .	4	Springfield (Central), . .	75 00	240 00
“ . . .	2	Springfield (Technical), . .	75 00	97 50
Hancock, . . .	1	Pittsfield, . . .	36 00	36 00
Hanson, . . .	24	Whitman, . . .	40 00	315 06
Hawley, . . .	1	Shelburne Falls (Arms Acad- emy).	36 00	36 00
Heath, . . .	2	Shelburne Falls (Arms Acad- emy).	36 00	60 00
“ . . .	3	Charlemont, . . .	45 00	135 00
Hinsdale, . . .	4	Pittsfield, . . .	36 00	144 00
“ . . .	7	Dalton, . . .	30 00	179 75
Hubbardston, . . .	2	Barre, . . .	50 00	100 00
“ . . .	5	Gardner, . . .	30 00	73 00
Lakeville, . . .	13	Middleborough, . . .	55 00	621 50
“ . . .	2	Taunton, . . .	50 00	100 00
Lanesborough, . . .	3	Pittsfield, . . .	36 00	108 00
Leverett, . . .	1	New Salem, . . .	30 00	30 00
“ . . .	6	Montague (Centre), . . .	30 00	180 00
“ . . .	5	Amherst, . . .	35 00	175 00
Leyden, . . .	1	Northfield, . . .	36 00	36 00
“ . . .	1	Greenfield, . . .	30 00	30 00
Longmeadow, . . .	8	Springfield (Technical), . .	75 00	300 00
“ . . .	17	Springfield (Central), . .	75 00	581 25
Lynnfield, . . .	20	Wakefield, . . .	40 00	659 00
“ . . .	2	Peabody, . . .	45 00	90 00
“ . . .	1	Lynn (English), . . .	65 00	65 00
Middlefield, . . .	3	Chester, . . .	50 00	52 50
“ . . .	1	Springfield (Central), . .	75 00	75 00
Middleton, . . .	21	Danvers, . . .	50 00	1,000 00
Monroe, . . .	2	Charlemont, . . .	45 00	90 00
Monterey, . . .	6	Great Barrington (Searles), .	54 00	234 00
Montgomery, . . .	2	Westfield, . . .	50 00	85 00

High school tuition reimbursements, etc. — Continued.

Towns.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Montgomery, . . .	3	Huntington, . . .	\$45 00	\$135 00
Mt. Washington, . . .	4	Great Barrington (Searles), . . .	54 00	216 00
New Braintree, . . .	1	Hardwick, . . .	40 00	40 00
<i>Newbury</i> , . . .	14	Newburyport, . . .	{ 12 00 ¹ 15 00 ¹ }	83 00
Norfolk, . . .	2	Franklin, . . .	30 00	59 25
“ . . .	5	Walpole, . . .	40 00	200 00
“ . . .	3	Boston (English), . . .	95 00	285 00
North Reading, . . .	41	Reading, . . .	50 00	1,911 25
Oakham, . . .	1	Rutland, . . .	40 00	8 00
“ . . .	4	Barre, . . .	50 00	200 00
Paxton, . . .	4	Worcester (Classical), . . .	60 00	240 00
“ . . .	3	Worcester (English), . . .	60 00	120 00
“ . . .	1	Worcester (South), . . .	60 00	60 00
Pelham, . . .	8	Amherst, . . .	35 00	280 00
Phillipston, . . .	3	Athol, . . .	36 00	83 70
“ . . .	1	Templeton, . . .	40 00	40 00
Plainfield, . . .	2	Northampton, . . .	50 00	100 00
“ . . .	1	Ashfield, . . .	30 00	30 00
Plympton, . . .	1	Whitman, . . .	40 00	40 00
“ . . .	1	Middleborough, . . .	55 00	55 00
“ . . .	5	Kingston, . . .	45 00	225 00
Prescott, . . .	1	New Salem, . . .	30 00	30 00
“ . . .	2	Athol, . . .	36 00	72 00
<i>Princeton</i> , . . .	1	Worcester (English), . . .	60 00	30 00
Raynham, . . .	3	Bridgewater, . . .	50 00	105 00
“ . . .	2	Easton, . . .	36 00	72 00
“ . . .	1	Brockton, . . .	75 00	75 00
“ . . .	11	Taunton, . . .	50 00	550 00
<i>Rehoboth</i> , . . .	3	Taunton, . . .	50 00	75 00
“ . . .	3	Attleborough, . . .	60 00	90 00
“ . . .	1	Fall River, . . .	60 00	30 00

¹ Foreign languages only.

High school tuition reimbursements, etc. — Continued.

TOWNS.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Richmond, . . .	6	Pittsfield,	\$36 00	\$189 00
Rochester, . . .	8	Fairhaven,	75 00	600 00
“	4	Fairhaven,	75 00	285 00 ¹
“	3	Middleborough,	55 00	77 00
“	3	Wareham,	45 00	135 00
Rowe,	1	North Adams,	45 00	45 00
“	4	Charlemont,	45 00	150 00
Rowley,	8	Ipswich,	40 00	286 00
“	7	Newburyport,	48 00	304 00
Royalston, . . .	4	Athol,	36 00	98 70
“	3	Templeton,	40 00	120 00
Russell,	3	Huntington,	45 00	120 38
Salisbury, . . .	12	Newburyport,	{ 12 00 ² 15 00 ² }	71 50
“	1	Amesbury,	30 00	4 12
Seekonk,	13	Fall River,	60 00	292 50
“	7	Attleborough,	45 00	157 50
“	2	Taunton,	50 00	50 00
Shutesbury, . . .	1	Amherst,	35 00	35 00
“	1	Montague (Centre),	30 00	30 00
“	2	New Salem,	30 00	50 00
Southampton, . .	12	Easthampton,	45 00	518 62
“	2	Northampton,	50 00	100 00
Southwick, . . .	12	Westfield,	50 00	528 75
Sterling,	2	Worcester (Classical),	60 00	37 50
“	1	Clinton,	40 00	20 00
Sturbridge, . . .	16	Southbridge,	30 00	225 00
Sunderland, . . .	4	Montague (Centre),	30 00	120 00
“	14	Amherst,	35 00	490 00
Swansea,	28	Fall River,	60 00	750 00
Tewksbury, . . .	32	Lowell,	60 00	940 00
Truro,	5	Provincetown,	40 00	200 00

¹ 1906-07.² Foreign languages only.

High school tuition reimbursements, etc. — Concluded.

Towns.	Number of pupils.	High schools attended.	Rate per year.	Amounts.
Truro,	3	Wellfleet,	\$40 00	\$120 00
Tyngsborough, . .	12	Lowell,	60 00	560 00
Tyringham, . . .	5	Lee,	50 00	250 00
Warwick,	5	Orange,	40 00	152 00
“	2	Northfield,	36 00	72 00
Washington, . . .	3	Chester,	50 00	120 00
“	1	Pittsfield,	36 00	36 00
Wendell,	5	Orange,	40 00	189 00
“	2	New Salem,	30 00	60 00
<i>West Brookfield,</i> . .	24	Warren,	30 00	308 25
“ “	1	Hardwick,	40 00	20 00
Westhampton, . .	6	Northampton,	50 00	275 00
“	2	Easthampton,	45 00	90 00
Westminster, . . .	5	Fitchburg,	48 00	216 00
West Stockbridge, . .	6	Pittsfield,	36 00	216 00
“ “	9	Great Barrington (Searles), . .	54 00	450 00
“ “	1	Pittsfield,	36 00	13 50
West Tisbury, . . .	6	Tisbury (Vineyard Haven), . .	40 00	218 00
Whately,	6	Northampton,	50 00	225 00
“	4	Greenfield,	30 00	120 00
<i>Wilbraham,</i>	1	Palmer,	35 00	17 50
<i>Williamsburg,</i> . . .	2	Northampton,	50 00	50 00
Windsor,	5	Dalton,	30 00	150 00
“	1	Ashfield,	30 00	30 00
“	1	Greenfield,	30 00	15 00
“	1	Adams,	30 00	30 00
Worthington, . . .	1	Northampton,	50 00	50 00
Totals (97 towns),	1,114	74 schools,	\$44 03	\$38,808 43

Towns having a valuation per pupil in *excess* of the State average (\$7,396): —

Burlington,	Harvard (High),	Stockbridge (High),
Boxford (Academy),	Hamilton,	Topsfield (High),
Chilmark,	Lincoln,	Wellfleet (High),
Dover (High),	Mattapoisett,	Wenham,
Gosnold,	Marion (Academy),	Weston (High),
Hull,	Nahant (High),	Westwood,
Hopedale (High),	Oak Bluffs (High),	Yarmouth (High). — 21

Towns that *did not avail* themselves of the law: —

Ashburnham (Academy),	Holland,	Savoy,
Brewster (High),	Mashpee,	Sherborn (Academy),
Brimfield (Academy),	New Ashford,	Tolland,
Carver (High),	Otis,	Wales,
Dana,	Pembroke (High),	West Bridgewater
Deerfield (Academy),	Peru,	(Academy). — 19
Hatfield (Academy),	Sandisfield,	

SUPERINTENDENTS OF SCHOOLS.

The number of changes among superintendents in 1908 has been unusually large. The school year of 1908–09 opened with 68 towns and cities under new superintendents. Of the 80 unions, 20 have new men. Thirteen superintendents failed of re-election. Eleven retired voluntarily, one or two leaving the work and the others going to better positions. Ten men have left the field and 14 new men have entered it. Eleven of these received certificates of qualifications from the Board of Education after passing an examination.

The town of Nantucket employs a superintendent this year for the first time. Topsfield, which was outside a union last year, has joined the Newbury union. Saugus and Stoneham, which have employed a man jointly for several years, will hereafter act singly, each with a superintendent of its own. Walpole, which has been united with Medfield, will hereafter act alone, and Medfield has joined the Millis union. Manchester and Amesbury have separated, and each has its own superintendent.

Were all the changes made intelligently, with an eye single to the good of the schools, the outlook for the future would be

most promising. Some of them were certainly wisely made, and school conditions ought to be improved in consequence. But the reasons for others were personal rather than professional, and there is no ground to expect that the schools will be any better for them. Several of the men have been doing all that the limitations of the field would allow, but have been the victims of petty personal differences with individual members of the school committees. In other cases, where a man has been long in office, a vague feeling of restlessness has appeared, and a desire for change for the sake of change has forced the retirement of the superintendent.

Much of the dissatisfaction is due to mutual misunderstanding. The superintendent fails to present his plans or to explain his methods clearly, and the committee who would be glad to help are made to seem to obstruct. Unfortunately, some superintendents have neither definite plans and well-constructed policies, nor tact in meeting nor skill in convincing the person with whom they deal. Such men are bound to fail, and they go from one position to another, until finally they are forced to retire altogether.

The superintendency of a small town or of a union affords an opportunity for a man to show of what sort of stuff he is made, and is the best of training schools for places of larger responsibility. When a city is in need of a superintendent, and is able and willing to pay for superiority, it ought to be possible to find suitable men in these smaller places, — men who have in them the probability of growth whose success in the smaller field has been so pronounced and so conspicuous as to ensure their success under larger responsibility.

In making changes in the superintendents, there is a growing tendency on the part of school committees to seek the advice of the officers of the Board of Education. This advice is always gladly given. The secretary and agents of the Board are in a position to know much of the men seeking office as superintendent, and, knowing the needs of the various fields as they do, they can be of great service in fitting the men to the places. Especially they can be helpful in warning committees against unsuitable candidates.

EXAMINATION FOR CERTIFICATES OF APPROVAL AS SUPERINTENDENTS.

The law making the approval of the Board of Education a condition of eligibility for service in a State-aided union was passed in 1904. Examinations have been held each year since, with the following results: —

Approved in 1904,	7
Approved in 1905,	14
Approved in 1906,	23
Approved in 1907,	15
Approved in 1908,	10
Total,	69

Of these, 29 have entered the service and are now at work.

List of superintendents, alphabetically arranged, with their superintendencies.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Adams, Charles F.,	\$1,600	Spencer,	Spencer.
Aldrich, George I.,	4,000	Brookline,	Brookline.
Allen, H. L.,	1,500	Dalton,	Cheshire, Dalton.
Allison, J. Francis,	1,700	Great Barrington,	Great Barrington.
Anthony, John C.,	1,800	Braintree,	Braintree.
Armstrong, George P.,	2,400	Belmont,	Belmont, Lexington.
Atwell, F. G.,	2,000	Hopedale,	Bellingham, Hopedale, Mendon.
Averill, Andrew P.,	1,600	Edgartown,	Chilmark, Edgartown, Gay Head, Oak Bluffs, Tisbury, West Tisbury.
Badger, Abner A.,	2,000	East Weymouth,	Weymouth.
Bagnall, Francis A.,	2,500	Adams,	Adams.
Baldwin, Edward G.,	1,550	West Brookfield,	New Braintree, Sturbridge, West Brookfield.
Barbour, Albert L.,	2,200	Natick,	Natick.
Barr, Preston,	1,500	Lee,	Lee, Otis, Monterey, Tyng-ham.
Bates, Charles H.,	2,000	Middleborough,	Middleborough.
Bates, William C.,	3,500	Cambridge,	Cambridge.
Bemis, George M.,	1,600	Plainville,	Norton, Plainville, Wrentham.
Benedict, Frank H.,	1,500	Sutton,	Auburn, Sutton.
Bliss, Don C.,	2,800	Brockton,	Brockton.
Blodgett, S. F.,	2,000	South Framing-ham.	Framingham.

List of superintendents, alphabetically arranged, with their superintendencies — Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Bowman, Mortimer H., . . .	\$1,500	Hatfield, . . .	Bernardston, Hadley, Hatfield.
Breck, Charles A., . . .	1,300	Methuen, . . .	Methuen.
Brick, F. S., . . .	1,500	Maynard, . . .	Boxborough, Maynard, Stow.
Bridgham, E. G., . . .	1,500	Lenox, . . .	Lenox.
Brittain, H. L., . . .	2,500	Hyde Park, . . .	Hyde Park.
Brockway, Clarence E., . . .	1,800	West Springfield, . . .	West Springfield.
Brooks, Stratton D., . . .	6,000	Boston, . . .	Boston.
Burke, J. E., Ass't, . . .	4,500	Boston, . . .	Boston.
Byram, Charles A., . . .	2,300	Pittsfield, . . .	Pittsfield.
Carfrey, J. H., . . .	2,000	Wakefield, . . .	Lynnfield, Wakefield.
Carr, Ernest P., . . .	1,650	Ayer, . . .	Ayer, West Boylston.
Caswell, Almorin O., . . .	1,500	Marblehead, . . .	Marblehead.
Chace, Seth Howard, . . .	2,000	97 18th Street, Lowell.	Dracut, North Reading, Tewksbury, Tyngsborough.
Chaffin, W. E., . . .	1,625	West Dennis, . . .	Brewster, Dennis, Yarmouth.
Chapman, Ira T., . . .	1,600	Millbury, . . .	Millbury, Oxford.
Clapp, George I., . . .	2,000	Woburn, . . .	Woburn.
Clark, Charles S., . . .	3,000	Somerville, . . .	Somerville.
Clay, Charles L., . . .	1,600	Harvard, . . .	Bolton, Boylston, Harvard, Shirley.
Cobb, Edwin S., . . .	1,650	Uxbridge, . . .	Douglas, Uxbridge.
Coggins, W. L., . . .	1,500	Rockland, . . .	Rockland.
Cole, Albert S., . . .	1,500	North Dartmouth, . . .	Dartmouth, Westport.
Congdon, F. K., . . .	2,000	Northampton, . . .	Northampton.
Corbin, F. E., ¹ . . .	2,000	Southbridge, . . .	Southbridge.
Cox, George W., . . .	2,000	Ware, . . .	Ware.
Cragin, W. N., . . .	1,800	Bedford, . . .	Bedford, Burlington, Wilming- ton.
Davis, John C., . . .	1,500	Dighton, . . .	Berkley, Dighton, Rehoboth.
Davison, F. P., . . .	1,800	Turners Falls, . . .	Montague.
DeMeyer, John E., . . .	1,500	Egypt, . . .	Duxbury, Marshfield, Scituate.
Dempsey, Clarence H., . . .	2,300	Revere, . . .	Revere.
Dixon, Edward, . . .	1,700	Orange, . . .	Orange.
Douglas, Frank A., ² . . .	2,100	Winthrop, . . .	Winthrop.
Drew, Frank, . . .	1,500	Granville, . . .	Granville, Sandisfield, South- wick, Tolland.
Durfee, Everett B., . . .	3,000	Fall River, . . .	Fall River.
Eaton, Charles M., ¹ . . .	2,100	Weston, . . .	Weston.
Ederly, Joseph G., . . .	2,700	Fitchburg, . . .	Fitchburg.
Eldredge, William F., . . .	1,200	Rockport, . . .	Rockport.
Ellinwood, George F., . . .	1,500	Whitman, . . .	Whitman.

¹ Also principal of high school.² Also principal of grammar school.

List of superintendents, alphabetically arranged, with their superintendencies — Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Erskine, Samuel H., ¹	\$2,000	Lancaster, . . .	Lancaster.
Evans, Osman C., . . .	1,500	102 Westford Street, Lowell.	Billerica, Pepperell.
Fales, Lewis A., . . .	2,000	Attleborough, . . .	Attleborough.
Fish, Charles E., ² . . .	1,200	Amesbury, . . .	Amesbury.
Fitts, Edward P., . . .	1,800	Mansfield, . . .	Mansfield, Sharon, Stoughton.
Freeman, L. A., . . .	1,500	93 Comstock Avenue, Providence, R. I.	Foxborough, Seekonk.
Frost, Gaius B., . . .	1,500	Georgetown, . . .	Georgetown, Groveland, Rowley.
Fuller, Robert J., . . .	1,975	North Attleborough.	North Attleborough.
Galger, George H., . . .	1,500	Hyannis, . . .	Barnstable.
Gamwell, Irving H., . . .	1,800	Franklin, . . .	Franklin.
Gay, George E., . . .	2,400	Haverhill, . . .	Haverhill.
Goodhue, E. W., . . .	1,500	Haydenville, . . .	Chesterfield, Williamsburg, Worthington.
Gordy, Wilbur F., . . .	4,000	Springfield, . . .	Springfield.
Gray, John C., . . .	2,000	Chicopee, . . .	Chicopee.
Gray, Lee T., . . .	2,000	Palmer, . . .	Palmer.
Gregory, B. C., . . .	2,800	Chelsea, . . .	Chelsea.
Grout, Edgar H., . . .	1,500	East Bridgewater,	East Bridgewater, Raynham, West Bridgewater.
Grover, G. Alvin, . . .	1,500	North Dana, . . .	Dana, Greenwich, New Salem, Prescott.
Gushee, W. E., . . .	1,600	Ludlow, . . .	Agawam, Ludlow.
Haley, C. W., . . .	1,800	Milford, . . .	Milford.
Hall, I. Freeman, . . .	2,500	North Adams, . . .	North Adams.
Hall, Wells A., ¹ . . .	2,000	Concord, . . .	Concord.
Hardy, A. L., . . .	1,800	Amherst, . . .	Amherst, Pelham.
Harris, C. A., . . .	1,500	Holliston, . . .	Holliston, Medway, Sherborn.
Harrub, H. W., . . .	2,400	Taunton, . . .	Taunton.
Hayes, James S., . . .	1,500	Rockland, . . .	Hanover, Hanson, Norwell.
Haynes, Edwin L., . . .	1,700	Townsend, . . .	Ashby, Lunenburg, Townsend.
Hayward, Harriet S., Ass't,	1,500	Brockton, . . .	Brockton.
Heald, A. A., . . .	1,750	Wareham, . . .	Marion, Wareham.
Heavens, Francis J., . . .	2,000	Plymouth, . . .	Plymouth.
Herron, Schuyler F., . . .	2,300	Winchester, . . .	Winchester.
Hervey, Henry D., . . .	2,700	Malden, . . .	Malden.
Hine, Roderick W., . . .	2,200	Dedham, . . .	Dedham.
Howard, Elmer F., . . .	1,625	East Northfield, . . .	Gill, Leyden, Northfield, Warwick.
Howard, Nelson G., . . .	2,300	Hingham Centre, . . .	Cohasset, Hingham, Hull.
Howes, Alfred F., . . .	1,500	Sheffield, . . .	Mt. Washington, New Marlborough, Sheffield.
Humphrey, Chester W., . . .	1,500	Rochester, . . .	Carver, Lakeville, Rochester.

¹ Also principal of the high school.

² Half time.

List of superintendents, alphabetically arranged, with their superintendencies — Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Hunt, Charles L., . . .	\$2,000	Clinton, . . .	Clinton.
Hutchinson, S. C., . . .	1,700	Andover, . . .	Andover.
Jacoby, Asher J., . . .	2,700	East Milton, . . .	Milton.
Jones, Asa M., . . .	1,600	Charlemont, . . .	Charlemont, Florida, Hawley, Heath, Monroe, Rowe.
Jones, Herbert J., . . .	1,500	Sandwich, . . .	Bourne, Mashpee, Sandwich.
Judkins, Clarence L., . . .	1,500	Ashfield, . . .	Ashfield, Cummington, Goshen, Plainfield.
Keith, Allen P., . . .	3,000	New Bedford, . . .	New Bedford.
Kendall, F. L., . . .	1,500	Chelmsford, . . .	Carlisle, Chelmsford, Dunstable.
Kennedy, Ambrose, . . .	888	Blackstone, . . .	Blackstone.
Kingman, F. W., ¹ . . .	1,600	Walpole, . . .	Walpole.
Knox, Herman N., . . .	1,600	Provincetown, . . .	Provincetown, Truro, Well- fleet.
Lea, Watson C., . . .	1,500	Holbrook, . . .	Avon, Holbrook, Randolph.
Lewis, Alvan R., . . .	1,500	Belchertown, . . .	Belchertown, Enfield.
Lewis, Homer P., . . .	4,000	Worcester, . . .	Worcester.
Lewis, Mary A., Ass't, . . .	1,350	Cambridge, . . .	Cambridge.
Lincoln, Mary L., . . .	1,000	Nantucket, . . .	Nantucket.
Loring, Everett G., . . .	1,650	Kingston, . . .	Halifax, Kingston, Pembroke, Plympton.
Lyman, C. S., . . .	1,950	Hudson, . . .	Hudson, Lincoln.
Mackin, John C., ² . . .	1,650	Manchester, . . .	Manchester.
Manning, John H., ³ . . .	1,550	Groton, . . .	Groton.
Marsh, Frank M., . . .	2,100	Fairhaven, . . .	Acushnet, Fairhaven, Matta- poisett.
Martin, Robert M., ⁴ . . .	720	12½ Hawthorne Street, Salem.	Ipswich.
Mason, Wallace E., . . .	2,100	North Andover, . . .	North Andover.
Melcher, S. A., . . .	2,350	Whitinsville, . . .	Northbridge.
Merriam, Burr J., . . .	1,500	Brookfield, . . .	Brookfield, North Brookfield.
Merrill, Leon O., . . .	1,500	Huntington, . . .	Blandford, Huntington, Mont- gomery, Russell.
Miller, W. D., . . .	1,700	Easthampton, . . .	Easthampton, Southampton, Westhampton.
Mitchell, Walter G., . . .	1,200	Williamstown, . . .	Williamstown.
Morrill, Alfred B., . . .	1,500	Leicester, . . .	Charlton, Leicester.
Morss, Charles H., . . .	2,800	Medford, . . .	Medford.
Morton, O. A., . . .	2,000	Marlborough, . . .	Marlborough.
Nickerson, Fred H., . . .	2,450	Melrose, . . .	Melrose.
O'Donnell, James J., . . .	3,000	Holyoke, . . .	Holyoke.
Parker, Walter S., Ass't, . . .	4,500	Boston, . . .	Boston.
Parkinson, William D., . . .	2,500	Waltham, . . .	Waltham.
Parlin, Frank E., . . .	2,700	Quincy, . . .	Quincy.
Paul, A. R., . . .	1,500	Shelburne Falls, . . .	Buckland, Colrain, Shelburne.

¹ 4 days per week.

² Unites teaching with supervising.

³ Also principal of high school.

⁴ 2½ days per week.

List of superintendents, alphabetically arranged, with their superintendencies — Continued.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Pearson, Parker T., . . .	\$1,600	Warren, . . .	Holland, Wales, Warrar
Peaslee, Frank J., . . .	3,000	Lynn, . . .	Lynn.
Pelo, W. J., . . .	1,000	Swampscott, . . .	Swampscott.
Perkins, James S., . . .	1,800	Canton, . . .	Canton.
Perkins, John W., . . .	2,500	Salem, . . .	Salem.
Perrin, Marshall L., . . .	1,500	Wellesley Hills, . . .	Wellesley.
Poland, Mary L., . . .	1,600	15 Myrtle Street, Springfield.	East Longmeadow, Hampden, Longmeadow, Wilbraham.
Pope, F. S., . . .	1,700	North Easton, . . .	Easton.
Price, Wilfred H., . . .	1,800	Watertown, . . .	Watertown.
Prior, Charles F., . . .	1,500	Cochituate, . . .	Dover, Sudbury, Wayland.
Putney, Freeman, . . .	2,300	Gloucester, . . .	Gloucester.
Putney, Walter K., . . .	1,000	Needham, . . .	Needham.
Rafter, Augustine L., Ass't,	4,500	Boston, . . .	Boston.
Randall, Charles L., . . .	1,600	Holden, . . .	Holden, Oakham, Paxton, Rutland.
Record, C. A., . . .	2,200	Abington, . . .	Abington, Bridgewater.
Richards, Clinton J., . . .	1,500	West Newbury, . . .	Boxford, Newbury, Salisbury, Topsfield, West Newbury.
Richardson, Herbert E., . . .	2,000	Greenfield, . . .	Greenfield.
Riley, William E., . . .	1,500	Hinsdale, . . .	Hinsdale, Peru, Savoy, Windsor.
Ripley, Mrs. Ellor E., Ass't,	4,500	Boston, . . .	Boston.
Robinson, Albert, . . .	1,800	Peabody, . . .	Peabody.
Robinson, Ernest W., . . .	2,100	Webster, . . .	Dudley, Webster.
Rugg, George, . . .	1,550	38 Somerset Street, Worcester.	Princeton, Sterling, Westminster.
Safford, Adelbert L., . . .	2,200	Beverly, . . .	Beverly.
Sanborn, H. C., . . .	1,600	Danvers, . . .	Danvers.
Sanderson, W. H., . . .	1,600	Chester, . . .	Becket, Chester, Middlefield, Washington.
Scully, John F., . . .	2,500	Arlington, . . .	Arlington.
Sheridan, Bernard M., . . .	3,500	Lawrence, . . .	Lawrence.
Sims, William F., . . .	1,800	Northborough, . . .	Berlin, Northborough, Shrewsbury, Southborough.
Simmons, Charles L., . . .	2,400	Westfield, . . .	Westfield.
Small, Alberto W., . . .	1,600	Baldwinsville, . . .	Hubbardston, Phillipston, Royalston, Templeton.
Small, Robert O., . . .	1,925	Grafton, . . .	Grafton, Upton.
Smith, Arthur W., . . .	1,500	Somerset, . . .	Freetown, Somerset, Swansea.
Spaulding, Frank E., . . .	4,000	Newtonville, . . .	Newton.
Sprague, Wilbur B., . . .	1,900	Winchendon, . . .	Ashburnham, Winchendon.
Stearns, Mrs. Cora A., . . .	1,500	Wendell Depot, . . .	Erving, Leverett, Shutesbury, Wendell.
Stevens, Charles E., ¹ . . .	1,500	Stoneham, . . .	Stoneham.
Stone, Melville A., . . .	1,700	Reading, . . .	Merrimac, Reading.
Taylor, Herbert F., . . .	2,000	Norwood, . . .	Norwood.

¹ Three-fifths time.

List of superintendents, alphabetically arranged, with their superintendencies — Concluded.

SUPERINTENDENTS.	Salaries.	Addresses.	Superintendencies.
Thompson, Thomas E., .	\$2,200	Leominster, .	Leominster.
Thompson, Victor V., .	1,600	Hopkinton, .	Ashland, Hopkinton.
Thomson, Andrew S., .	1,600	South Hamilton, .	Essex, Hamilton, Middleton, Wenham.
Tirrell, Edwin S., . .	1,400	Nahant, . .	Nahant.
Tower, Alfred O., . .	1,500	Barre, . .	Barre, Hardwick, Petersham.
Tucker, Charles A. ¹ .	1,800	Stockbridge, .	Stockbridge.
Van Ornum, F. B., . .	1,500	Cheshire, . .	Clarksburg, Hancock, Lanes- borough, New Ashford.
Waldron, H. C., . . .	1,800	Westborough, .	Westborough.
Ward, W. Scott., . . .	2,000	Athol, . . .	Athol.
Webber, Arthur B., . .	1,600	Littleton, . .	Acton, Littleton, Westford.
West, M. J.,	1,500	Millis,	Medfield, Millis, Norfolk, West- wood.
Wheeler, F. A.,	1,500	Monson,	Brimfield, Monson.
Wheeler, U. G.,	2,500	Everett,	Everett.
Whitcomb, Arthur K., .	3,000	Lowell,	Lowell.
White, Maurice P., Ass't, .	4,500	Boston,	Boston.
Whitney, Fairfield, . .	1,500	Saugus,	Saugus.
Whittemore, F. E., . .	1,750	South Hadley Falls,	Granby, South Hadley.
Wiggin, Ralph L., . . .	1,300	Falmouth, . . .	Falmouth.
Willard, Edgar L., . . .	1,600	Newburyport, .	Newburyport.
Williams, F. F.,	1,500	West Stockbridge,	Alford, Egremont, Richmond, West Stockbridge.
Williams, Loring G., . .	1,600	Harwich,	Chatham, Eastham, Harwich, Orleans.
Willson, Myron J., . . .	1,650	South Deerfield, .	Conway, Deerfield, Sunderland, Whately.
Wood, Judson I.,	2,100	Gardner,	Gardner.
(Total, 191.)			

¹ Also principal of high school.

Union superintendencies.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1907.	No. of schools, 1906-1907.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendent begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
1	Duxbury, Marshfield, Scituate.	1888	\$2,142,747 1,841,430 4,191,570	10 11 12	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	\$250 00 250 00 250 00	\$416 66 416 66 —	\$1,500 00	June 1,	Dr. Nathaniel K. Noyes, Duxbury.	Clara M. Skeele, Scituate.
2	Hubbardston, Phillipston, Royalston, Templeton.	1889	656,120 258,934 499,819 1,553,352	9 4 7 16	$\frac{2}{10}$ $\frac{1}{10}$ $\frac{2}{10}$ $\frac{1}{10}$	150 00 75 00 150 00 375 00	250 00 125 00 250 00 625 00	1,600 00	July 1,	S. E. Greenwood, Templeton.	Mrs. Mary R. Chaffin, Phillipston.
3	Ashland, Hopkinton.	1889	1,094,328 1,558,171	10 13	$\frac{2}{3}$ $\frac{2}{3}$	300 00 450 00	500 00 750 00	1,600 00	July 1,	G. C. Fisk, Ashland.	Geo. S. Thompson, Hopkinton.
4	Easthampton, Southampton, Westhampton.	1889	4,980,894 495,766 225,942	30 8 5	12 days. 5 days. 3 days.	621 57 78 95 49 48	131 58 82 47	1,600 00	July 1,	Rev. Franz Willer, pro tem, Easthampton.	Charles N. Loud, Westhampton.
5	Barre, Hardwick, Petersham.	1890	1,629,165 1,691,750 757,456	13 14 6	$\frac{2}{3}$ $\frac{1}{2}$ $\frac{2}{3}$	300 00 300 00 150 00	500 00 400 00 350 00	1,500 00	May 1,	Rev. Preston R. Crowell, Petersham.	Charles O. Flagg, Hardwick.
6	Berlin, Northborough, Shrewsbury, Southborough.	1890	546,880 1,337,291 1,460,329 1,709,822	5 9 12 9	$\frac{1}{2}$ $\frac{2}{3}$ $\frac{2}{3}$ $\frac{2}{3}$	107 40 214 20 214 20 214 20	179 00 357 00 357 00 357 00	1,800 00	May 1,	Daniel W. Bemis, Shrewsbury.	Samuel T. Maynard, Shrewsbury.
7	Becket, Chester, Middlefield, Washington.	1890	484,330 655,288 189,035 278,979	7 11 6 5	$\frac{123}{500}$ $\frac{226}{500}$ $\frac{99}{500}$ $\frac{52}{500}$	184 50 339 00 148 50 78 00	307 50 565 00 247 50 130 00	1,600 00	July 1,	James H. Keefe, Chester.	Howard R. Molineaux, Becket.
8	Brimfield, Monson.	1890	482,247 1,767,071	7 23	$\frac{3}{10}$ $\frac{7}{10}$	225 00 525 00	375 00 875 00	1,500 00	April 30,	Rev. Samuel Eaton, Brimfield.	Rufus S. Stebbins, Monson.

Union superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1907.	No. of schools, 1906-1907.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendent begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
9	Princeton, Sterling, Westminster.	1890 1890 1890	\$1,034,385 974,245 737,115	9 8 12	$\frac{1}{2}$ $\frac{2}{3}$ $\frac{2}{3}$	\$150 00 300 00 300 00	\$250 00 500 00 500 00	\$1,500 00	July 1,	Moses C. Goodnow, Princeton.	Mrs. Katherine T. Dutton, Dunstable.
10	Sharon, Stoughton.	1891 1891	2,884,019 2,537,980	21 11	2 days. 1 day.	300 00 150 00	500 00 250 00	1,800 00	April 9,	S. Frederick French, Mansfield.	Dr. Joseph McDonald.
11	Dracut, North Reading, Tewksbury, Tyngsborough.	1891 1891 1891 1891	2,191,015 673,115 1,101,926 514,094	16 4 6 5	$\frac{4}{10}$ $\frac{1}{10}$ $\frac{4}{10}$ $\frac{1}{10}$	375 00 75 00 225 00 75 00	625 00 125 00 325 00 125 00	2,000 00	Sept. 3,	Lucian C. McLoon, Tyngsborough.	Ophelia S. Brown, Tyngsborough.
12	Brookfield, North Brookfield.	1891 1891	1,265,651 1,650,940	16 10	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,500 00	July 1,	L. Emerson Barnes, North Brookfield.	Anson P. Goodell, Brookfield.
13	Grafton, Upton.	1891 1891	2,670,337 1,075,620	22 9	$\frac{3}{4}$ $\frac{1}{4}$	562 50 187 50	937 50 312 50	1,800 00	July 1,	Francis M. McGarry, Grafton.	Appleton P. Williams, West Upton.
14	Millbury, Oxford.	1891 1891	2,303,850 1,838,665	19 17	$\frac{3}{4}$ $\frac{2}{3}$	450 00 300 00	750 00 500 00	1,600 00	Aug. 1,	Herbert V. Chaffee, Oxford.	Edward F. Hull, Millbury.
15	Abington, Bridgewater.	1891 1891	2,781,295 3,247,381	19 25	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	2,200 00	Aug. 1,	Richard J. Casey, Bridgewater.	Walter P. Hutchinson, Abington.
16	Buckland, Colrain, Shelburne.	1892 1892 1892	713,348 628,465 1,050,347	9 15 10	$\frac{9}{10}$ $\frac{4}{10}$ $\frac{3}{10}$	225 00 300 00 225 00	375 00 500 00 375 00	1,500 00	April 24,	Herbert Newell, Shelburne Falls.	Jonathan E. Davenport, Colrain.
17	Bourne, Mashpee, Sandwich.	1892 1892 1892	3,334,275 191,210 982,950	11 2 8	$\frac{9}{20}$ $\frac{2}{20}$ $\frac{9}{20}$	337 50 75 00 337 50	562 50 125 00 562 50	1,500 00	July 1,	Rev. Milton R. Kerr, Sandwich.	Anna M. Starbuck, (Bourneedale), Bourne.

18	East Bridgewater, Rayham, West Bridgewater,	1892 1892 1892	1,733,646 743,946 1,188,741	14 8 10	9 days. 4 days. 7 days.	350 00 150 00 250 00 250 00	583 33 280 00 416 67	1,500 00	May 20,	Wm. H. Taylor, East Bridgewater.	Susan B. Dimphe, East Bridgewater.
19	Brewster, ¹ Dennis, Yarmouth,	1903 1892 1892	507,870 1,186,005 2,016,566	4 13 9	⁴ / ₂₆ ¹ / ₂₆ ⁹ / ₂₆	259 61 115 39 375 00 625 00	432 69 192 31 625 00	1,625 00	July 1,	Edmund W. Eldridge, Yarmouth.	E. Herbert Howes, Dennis.
20	Holland, ² Wales, Warren,	1902 1893 1893	96,354 280,907 1,848,048	1 4 16	¹ / ₂₀ ³ / ₂₀ ¹ / ₂₀	37 50 112 50 600 00 1,000 00	62 50 187 50 1,000 00	1,600 00	Aug. 1,	Dr. Chas. A. DeLand, Warren.	Dr. John E. Dalton, Warren.
21	East Longmeadow, Hampton, Longmeadow, Wilbraham,	1893 1893 1893 1893	653,200 375,832 1,133,570 1,044,352	10 6 5 12	¹ / ₃₃ ⁹ / ₃₃ ⁵ / ₃₃ ¹ / ₃₃	227 27 136 36 113 64 272 73	378 79 227 27 189 39 454 55	1,600 00	July 1,	Oliver Louis Wolcott, East Longmeadow.	Dr. H. G. Webber, Wilbraham.
22	Dartmouth, Westport,	1893 1893	3,325,800 1,680,325	21 19	¹ / ₂ ¹ / ₂	375 00 375 00	625 00 625 00	1,500 00	Sept. 1,	Edward L. Macomber (Central Village), Westport.	George F. Merry, Dart- mouth.
23	Hanover, Hanson, Norwell,	1894 1894 1894	1,423,645 1,253,490 873,069	11 8 7	¹ / ₃ ¹ / ₃ ¹ / ₃	250 00 250 00 250 00	416 67 416 66 416 67	1,650 00	May 1,	Dr. Clarence L. Howes, Hanover.	Mrs. Mary E. Curtis, Norwell.
24	Cheshire, Dalton,	1894 1894	736,843 3,383,042	8 17	³ / ₁₀ ⁷ / ₁₀	225 00 525 00	375 00 875 00	1,500 00	April 10,	George Z. Dean, Cheshire.	Payson E. Little, Dalton.
25	Provincetown, Truro, ² Wellfleet,	1894 1902 1894	1,900,300 374,460 1,033,135	22 5 5	² / ₃₃ ⁵ / ₃₃ ⁵ / ₃₃	522 74 113 63 113 63	871 22 189 30 189 39	1,600 00	Sept. 7,	A. T. Williams, Prov- inctown.	Everett I. Nye, Well- fleet.
26	Norton, Plainville, ³ Wrentham,	1894 1905 1894	1,081,275 729,609 1,154,470	12 7 8	⁴ / ₁₀ ³ / ₁₀ ³ / ₁₀	300 00 225 00 225 00	500 00 375 00 375 00	1,600 00	May 1,	Elbridge J. Whitaker, Wrentham.	W. C. S. Wood, Nor- ton.
27	Bellingham, Hopedale, Mendon,	1894 1894 1894	814,430 5,165,615 640,330	10 12 6	¹ / ₃ ¹ / ₃ ¹ / ₃	250 00 250 00 250 00	416 66 — 416 66	2,000 00	May 28,	Frank H. Wood, Mendon.	Frank J. Dutcher, Hopedale.
28	Chatham, ¹ Eastham, Harwich, Orleans,	1903 1894 1894 1894	1,103,500 335,500 1,160,837 610,196	10 2 12 4	⁹ / ₂₇ ² / ₂₇ ¹ / ₂₇ ⁴ / ₂₇	250 00 55 56 333 33 111 11	416 67 92 60 555 55 185 18	1,600 00	Oct. 1,	Thos. H. Nickerson, Harwich.	George S. Hall, Or- leans.

¹ Added Oct. 17, 1903, by decree of State Board of Education.

² Added in 1902.

³ A part of Wrentham; made a town in 1905.

Union superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1907.	No. of schools, 1906-1907.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendent begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
29	Granby, South Hadley,	1895 1895	\$495,405 2,617,023	5 25	$\frac{1}{4}$ $\frac{3}{4}$	\$562 50 187 50	\$937 50 312 50	\$1,750 00	April 1,	Arthur S. Gay lord, South Hadley Falls.	George R. Smith, Granby.
30	Gill, Leyden, ¹ Northfield, Warwick,	1895 1901 1895 1895	445,474 175,579 1,238,920 364,880	6 5 9 4	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	150 00 150 00 300 00 150 00	250 00 250 00 500 00 250 00	1,625 00	May 7,	L. R. Smith, East Northfield.	Mrs. Nellie M. Wood, Northfield.
31	Bolton, Boylston, Harvard, Shirley, .	1895 1895 1895 1895	491,214 478,651 1,300,889 1,046,727	4 4 6 8	$\frac{9}{28}$ $\frac{5}{28}$ $\frac{9}{28}$ $\frac{5}{28}$	160 71 133 93 241 07 214 29	267 86 223 21 401 79 357 14	1,600 00	July 1,	Clifford L. Russell, Harvard.	George L. Wright, Boylston Centre.
32	Chilmark, ² Edgartown, Gay Head, ³ Oak Bluffs, Tisbury, West Tisbury,	1897 1895 1902 1895 1895 1895	278,757 925,510 33,130 1,781,075 1,333,142 516,798	2 5 1 6 6 4	$\frac{2}{20}$ $\frac{4}{20}$ $\frac{3}{20}$ $\frac{5}{20}$ $\frac{5}{20}$ $\frac{3}{20}$	75 00 150 00 37 50 187 50 187 50 112 50	125 00 250 00 62 50 312 50 312 50 187 50	1,600 00	July 1,	William Channing Nevin, Edgartown.	Anson M. Luce, North Tisbury.
33	Georgetown, Groveland, Rowley, .	1895 1895 1895	1,009,410 1,163,032 747,971	8 13 8	$\frac{2}{7}$ $\frac{2}{7}$ $\frac{1}{2}$	300 00 300 00 150 00	500 00 500 00 250 00	1,500 00	Sept. 1,	Albert L. Wales, 16 King Street, Grove- land.	Frank E. Richardson, Rowley.
34	Carlisle, Chelmsford, Dunstable, .	1896 1896 1896	416,193 3,298,410 295,100	3 26 3	$\frac{3}{20}$ $\frac{16}{20}$ $\frac{2}{20}$	112 50 562 50 75 00	187 50 937 50 125 00	1,500 00	Aug. 1,	Herbert E. Ellis, Chelmsford.	Arthur N. Hall, Dun- stable.
35	Holliston, Medway, Sherborn, .	1896 1896 1896	1,566,329 1,346,855 1,345,286	13 12 7	2 days. 2 days. 1 day.	300 00 300 00 150 00	500 00 500 00 250 00	1,500 00	Sept. 1,	Chas. M. Smith, West Medway.	Dr. Samuel H. Butler, Medway.
36	Acushnet, Fairhaven, Mattapoisett, .	1897 1897 1897	678,490 2,949,268 1,570,395	7 21 7	$\frac{1}{6}$ $\frac{4}{6}$ $\frac{1}{6}$	125 00 500 00 125 00	208 33 833 34 208 33	2,100 00	July 1,	Daniel W. Kendrick, Fairhaven.	Mrs. Mary W. Wood, Mattapoisett.

37	Charlottesville, Florida, Hawley, Heath, ³ Monroe, Rowe, Ashby, Lunenburg, ⁴ Townsend,	1897 1897 1897 1902 1897 1897 1897 1905 1897	419,455 171,895 154,953 163,008 146,915 175,107 506,737 1,026,856 1,142,378	10 5 6 4 4 6 4 8 9	$\frac{10}{32}$ $\frac{4}{32}$ $\frac{4}{32}$ $\frac{3}{32}$ $\frac{4}{32}$ $\frac{5}{32}$ $\frac{3}{10}$ $\frac{3}{10}$ $\frac{7}{10}$	234 38 93 75 140 62 70 32 93 75 117 18 150 00 225 00 375 00	390 63 156 25 234 37 117 20 156 25 195 30 250 00 375 00 625 00	1,600 00	April 26,	Warren W. Smith, East Charlottesville.	Frank B. Burrington, Heath.
38	Dover, Sudbury, Wayland,	1898 1898 1898	1,176,136 1,301,160 1,964,134	6 7 11	$\frac{2}{10}$ $\frac{2}{10}$ $\frac{5}{10}$	150 00 225 00 375 00	250 00 375 00 625 00	1,500 00	Sept. 1,	J. W. Eastman, Towns- end.	Rev. A. T. Kempton, Lunenburg.
39	New Braintree, Sturbridge, West Brookfield,	1898 1898 1898	394,590 987,458 984,630	4 12 7	$\frac{3}{10}$ $\frac{4}{10}$ $\frac{3}{10}$	225 00 300 00 225 00	375 00 500 00 375 00	1,500 00	May 20,	George K. Tufts, New Braintree.	Summer H. Reed, West Brookfield.
40	Ayer, West Boylston,	1898 1898	2,008,215 733,752	10 7	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,650 00	July 1,	Albert W. Hinds, West Boylston.	George H. Brown, Ayer.
41	Acton, Littleton, Westford,	1898 1898 1898	1,798,545 1,016,858 1,675,310	11 7 15	$\frac{3}{10}$ $\frac{2}{10}$ $\frac{5}{10}$	225 00 150 00 375 00	375 00 250 00 625 00	1,600 00	Sept. 1,	Dr. J. W. Godfrey, Littleton.	Chas. J. Williams, Acton.
42	Freetown, Somerset, ³ Swansea,	1900 1902 1900	842,320 1,221,648 1,245,697	8 13 12	$\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$	250 00 250 00 250 00	416 67 416 67 416 66	1,500 00	May 1,	George W. Fisk, Swan- sea.	Viola N. Burns, Free- town.
43	Marion, Wareham,	1900 1900	2,541,610 3,642,522	6 21	$\frac{2}{3}$ $\frac{3}{3}$	300 00 450 00	500 00 750 00	1,750 00	June 1,	John Huxtable, Ware- ham.	A. C. Vose, Marion.
44	Holden, Oakham, Paxton, Rutland,	1900 1900 1900 1900	1,435,508 344,014 350,304 712,496	16 5 3 6	$\frac{10}{20}$ $\frac{2}{20}$ $\frac{2}{20}$ $\frac{5}{20}$	375 00 112 50 75 00 187 50	625 00 187 50 125 00 312 50	1,600 00	Aug. 1,	Jesse Allen, Oakham,	Addie M. Holden, Holden.
45	Ashfield, Gunnington, Gosuen, Plainfield,	1900 1900 1900 1900	597,217 316,130 175,360 175,092	11 8 4 5	$\frac{11}{28}$ $\frac{8}{28}$ $\frac{4}{28}$ $\frac{5}{28}$	294 64 214 29 107 14 133 93	491 07 357 15 178 57 223 21	1,500 00	Sept. 1,	Frank C. Wierhauper, West Gunnington.	George B. Church, Shelburne Falls.

1 Added in 1901.

2 Added in 1897.

3 Added in 1902.

4 Added May 16, 1905, by decree of State Board of Education.

Union superintendencies — Continued.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1907.	No. of schools, 1906-1907.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendent's salary begins.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
47	Bedford, Burlington, Wilmington.	1900	\$1,285,115	4	$\frac{7}{20}$	\$262 50	\$437 50	\$1,800 00	June 1,	Robert H. Gowing, Wilmington.	Elihu G. Loomis, Bedford.
		1900	609,834	3	$\frac{9}{20}$	112 50	187 50				
		1900	1,272,427	11	$\frac{19}{20}$	375 00	625 00				
48	Lynnfield, Wakefield.	1900	746,240	4	$\frac{7}{10}$	75 00	125 00	2,000 00	Aug. 1,	Franklin W. Freeman, Lynnfield Centre.	Chas. E. Montague, Wakefield.
49	Amherst, Pelham.	1901	8,367,559	50	$\frac{4}{10}$	675 00	—	1,800 00	April 1,	John L. Brewer, Pelham.	Albion B. Allen, Amherst.
		1901	3,628,936	18	$\frac{4}{2}$	600 00	—				
		1901	223,888	4	$\frac{1}{2}$	150 00	250 00				
50	Barnardston, Hadley, Hatfield.	1901	425,031	8	$\frac{9}{27}$	166 67	277 78	1,500 00	April 15,	Edwin B. Hale, Barnardston.	John E. Davis, Barnardston.
		1901	1,282,682	11	$\frac{1}{2}$	305 55	509 25				
		1901	1,419,177	9	$\frac{19}{27}$	277 78	462 97				
51	Blandford, Huntington, Montgomery, Russell.	1901	457,082	6	$\frac{8}{2}$	187 50	312 50	1,500 00	July 1,	A. C. Wightman, Huntington.	A. H. Nye, Russell.
		1901	—	10	$\frac{1}{2}$	257 81	429 68				
		1901	150,476	4	$\frac{4}{2}$	93 75	156 25				
		1901	673,549	8	$\frac{8}{2}$	210 94	351 57				
52	Avon, Holbrook, Randolph.	1901	956,341	9	$\frac{4}{15}$	200 00	333 33	1,500 00	July 1,	Zenas A. French, Holbrook.	Patrick E. McGonnigle, Avon.
		1901	1,367,653	13	$\frac{9}{15}$	250 00	416 67				
		1901	1,977,350	16	$\frac{4}{15}$	300 00	500 00				
53	Douglas, Uxbridge.	1901	1,219,735	10	$\frac{2}{2}$	300 00	500 00	1,650 00	Sept. 1,	Leander S. Aldrich, Uxbridge.	Gilbert W. Rowley, Douglas.
		1901	2,695,030	23	$\frac{2}{2}$	450 00	750 00				
54	Erving, Leverett, Shutesbury, Wendell.	1901	895,987	7	$\frac{8}{21}$	285 71	476 19	1,500 00	Aug. 1,	Nathan J. Hunting, Shutesbury.	Mrs. Jennie C. Richards, Erving.
		1901	315,377	4	$\frac{4}{21}$	142 86	238 10				
		1901	236,905	3	$\frac{3}{21}$	178 57	178 57				
		1901	237,493	5	$\frac{5}{21}$	214 28	357 14				
55	Lee, Monterey, Otis, Tyringham.	1901	1,972,157	15	$\frac{1}{2}$	360 00	600 00	1,500 00	Sept. 3,	D. M. Wilcox, Lee.	J. J. Hassett, Lec.
		1901	290,711	4	$\frac{4}{25}$	150 00	250 00				
		1901	249,452	5	$\frac{5}{25}$	150 00	250 00				
		1901	254,725	4	$\frac{4}{25}$	90 00	150 00				

Union superintendencies — Concluded.

Number.	UNIONS.	When formed.	Valuation of assessed estate, May 1, 1907.	No. of schools, 1906-1907.	EACH TOWN'S SHARE OF SUPERINTENDENT'S —		State aid to each town.	Superintendent's salary.	When union superintendent's term expires.	JOINT COMMITTEE.	
					Service.	Salary.				Chairman.	Secretary.
66	Alford, Egremont, Richmond, West Stockbridge,	1902	\$168,255 461,994 349,946 388,504	3 4 6 7	$\frac{3}{22}$ $\frac{4}{22}$ $\frac{7}{22}$ $\frac{8}{22}$	\$102 27 136 36 227 73 238 64 272 73	\$170 45 227 27 397 73 454 55	\$1,500 00	July 1,	J. B. Briggs (Egremont), Ct. Barrington, R. F. D. No. 3.	Henry M. Bowden, South Egremont.
67	Berkley, Dighton, Rehoboth,	1902	409,711 1,018,442 786,151	7 12 15	$\frac{4}{20}$ $\frac{7}{20}$ $\frac{9}{20}$	150 00 262 50 337 50	250 00 437 50 562 50	1,500 00	July 1,	Edwin H. Allen, Berkley.	Christopher C. Viall, Rehoboth.
68	Charlton, Leicester,	1902	1,264,645 2,282,556	15 20	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,500 00	Sept. 1,	Rev. Edgar W. Preble, Charlton.	J. W. Smith, Leicester.
69	Boxborough, Maynard, Stow,	1902	252,115 3,732,355 881,126	4 20 6	$\frac{3}{10}$ $\frac{5}{10}$ $\frac{3}{10}$	150 00 375 00 225 00	250 00 375 00 375 00	1,500 00	Sept. 1,	Daniel Goodenow, Maynard.	Rowland P. Harriman, Maynard.
70	Conway, Deerfield, Sunderland, Whately,	1903	662,984 1,590,802 491,755 434,841	12 14 4 5	32 per cent. 39 per cent. 17 per cent. 12 per cent.	242 78 292 28 487 13 128 02 86 92	404 63 487 13 213 37 144 87	1,600 00	June 1,	C. G. Trow, Sunderland.	Edward A. Rice, South Deerfield.
71	Azawam, Ludlow,	1903	1,684,582 3,472,474	14 23	$\frac{15}{23}$ $\frac{2}{23}$	296 05 453 95	493 42 756 58	1,600 00	July 1,	Edward E. Chapman, Ludlow.	Frederick A. Worthington, Azawam.
72	Granville, Sandisfield, Southwick, Tolland,	1903	417,992 331,345 651,465 172,709	8 8 10 1	30 per cent. 25 per cent. 35 per cent. 10 per cent.	225 00 187 50 262 50 75 00	375 00 312 50 437 50 125 00	1,500 00	July 1,	Mrs. Alice M. Carpenter, Granville.	Mrs. Emma L. Stow, Granville.
73	Dudlev, Webster,	1903	1,557,296 6,410,054	15 23	$\frac{1}{2}$ $\frac{2}{3}$	250 00 500 00	416 67 —	2,100 00	Aug. 1,	Spaulding Bartlett, Webster.	R. A. Dunning, Webster.
74	Billerica, Pepperell,	1904	2,245,908 2,234,747	16 18	$\frac{1}{2}$ $\frac{1}{2}$	375 00 375 00	625 00 625 00	1,500 00	Sept. 1,	Dr. Leicester R. Qua, Pepperell.	Joseph P. Mcaney, North Billerica.

THE WORK OF THE AGENTS.

The annual reports of the agents of the Board will be found in the Appendix. The report of Mr. Prince presents facts descriptive of the most recent tendency in the organization and administration of the schools. Mr. MacDonald deals with the difficult problems connected with high school administration. Mr. Warren discusses industrial education as related to the public schools. Mr. Burnham treats of the work in industrial drawing and the manual arts.

In the Appendix will also be found an outline of mathematical work suitable to be used in classes of the ninth grade. It shows in a most suggestive way how the school work in arithmetic and elementary geometry may be connected with and prepare for shop work in the practical arts. The outline was worked out by Mr. Brenelle Hunt, principal of the model school connected with the State Normal School at Bridgewater.

A paper on "Industrial Education and the Public Schools," read by the secretary of the Board at a meeting of the Massachusetts State Teachers' Association, in Boston, November 27, is also included.

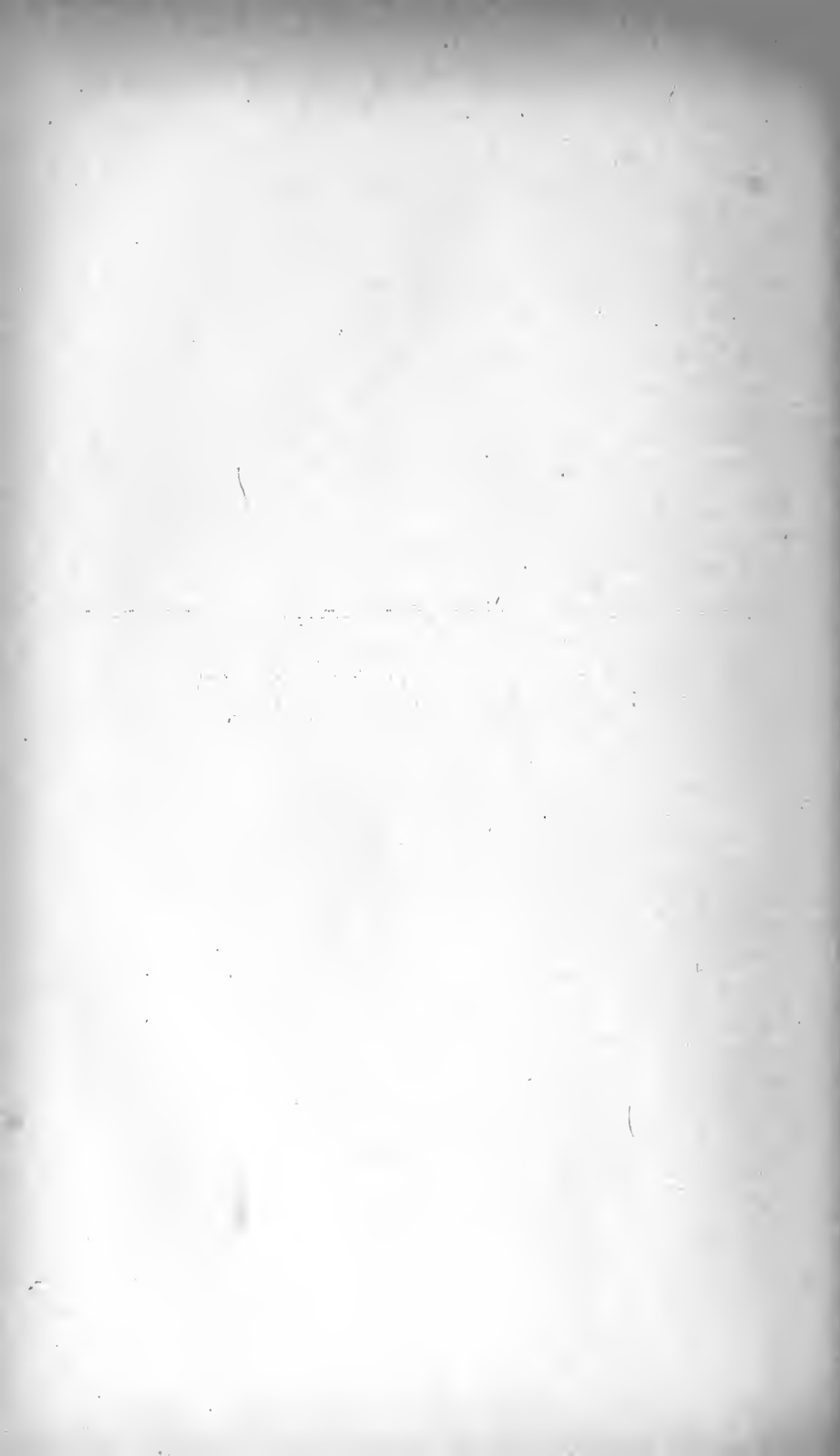
All the papers contained in the Appendix are commended to the attention of the members of the Board and of the Legislature.

Respectfully submitted,

GEORGE H. MARTIN,

Secretary of the Board.

FINANCIAL STATEMENTS.



THE MASSACHUSETTS SCHOOL FUND.

The following statement shows the condition of the Massachusetts school fund:—

Amount of the fund Jan. 1, 1908,	\$5,000,000 00
Amount of fund Dec. 31, 1908,	5,000,000 00
Gross income for 1908,	\$233,366 78
Paid for accrued interest on securities purchased,	3,927 05
Net income,	\$229,439 73
Paid to towns in the distribution of Jan. 25, 1909,	\$229,439 73

The following table shows the amount of the principal of the Massachusetts school fund and the annual income from 1895 to 1908:—

YEAR.	Principal.	Income.
1895,	\$3,870,548 14	\$172,729 65
1896,	3,970,548 14	175,165 64
1897,	4,070,548 14	189,808 71
1898,	4,170,548 14	204,612 61
1899,	4,270,548 14	208,462 61
1900,	4,370,548 14	213,066 18
1901,	4,470,548 14	366,656 51
1902,	4,570,548 14	220,731 77
1903,	4,670,548 14	197,379 93
1904,	4,780,110 66	214,224 13
1905,	4,880,110 66	219,379 32
1906,	4,980,110 66	224,468 31
1907,	5,000,000 00	228,621 22
1908,	5,000,000 00	229,439 73

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION.
 APPROPRIATIONS FOR SUPPORT OF STATE NORMAL SCHOOLS.

Dr. Cr.

1907-08.			
Expended for Bridgewater Normal School,		\$52,991 00	Appropriation (chapter 105, Acts of 1908),
Expended for Fitchburg Normal School,		42,563 33	Appropriation (chapter 257, Acts of 1908),
Expended for Framingham Normal School,		38,443 00	Received from the city of Fitchburg,
Expended for Hyannis Normal School,		22,869 89	Deficit,
Expended for Lowell Normal School,		31,998 52	
Expended for North Adams Normal School,		34,978 73	
Expended for Salem Normal School,		36,799 22	
Expended for Westfield Normal School,		32,370 00	
Expended for Worcester Normal School,		26,523 15	
Expended for Normal Art School,		34,212 52	
Balance unexpended,		\$353,749 36	
		1,662 70	
			\$355,412 06
Bridgewater Normal School:—			Appropriation (chapter 105, Acts of 1908),
Salaries,		\$27,937 60	
Model school,		7,647 33	
Wages and labor,		6,760 00	
			\$52,991 00
			2,500 00
			11,673 33
			9 73
			\$341,229 00

Buildings and grounds,	8,540 00		
School supplies,	1,866 07		
Miscellaneous,	240 00		
		\$52,991 00	\$52,991 00
Fitchburg Normal School:—			
Salaries,	\$15,649 89		
Model school,	14,316 31		
Wages and labor,	4,951 08		
Buildings and grounds,	4,807 00		
School supplies,	1,913 36		
Lectures, etc.,	500 00		
Miscellaneous,	425 69		
		\$42,563 33	\$42,563 33
Framingham Normal School:—			
Salaries,	\$17,899 96		
Model school,	5,897 73		
Wages and labor,	4,721 00		
Buildings and grounds,	8,333 77		
School supplies,	1,189 55		
Lectures, etc,	31 40		
Miscellaneous,	369 59		
		\$38,443 00	\$38,443 00
Hyrannis Normal School:—			
Salaries,	\$9,787 35		
Model school,	2,736 22		
Wages and labor,	2,269 18		
Buildings and grounds,	4 539 69		
		\$24,370 00	\$24,370 00
<i>Amount carried forward,</i>	\$19,332 44		\$24,370 00

Appropriation (chapter 105, Acts of 1908),
 Received from city of Fitchburg,

Appropriation (chapter 105, Acts of 1908),

Appropriation (chapter 105, Acts of 1908),

Amount carried forward,

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONTINUED.

APPROPRIATIONS FOR SUPPORT OF STATE NORMAL SCHOOLS — *Continued.*

CR.

DR.

1908.		1908.	Amount brought forward,	\$24,370 00
	<i>Amount brought forward,</i>			
	Hyannis Normal School — <i>Con.</i>	\$19,332 44		
	School supplies,	899 67		
	Lectures, etc.,	51 60		
	Summer school and miscella- neous,	2,586 18		
	Balance unexpended,	1,500 11	\$24,370 00	\$24,370 00
	Lowell Normal School: —			
	Salaries,	\$15,682 02		
	Model school,	6,439 54		
	Wages and labor,	2,835 37		
	Buildings and grounds,	4,073 11		
	School supplies,	2,494 21		
	Lectures, etc.,	253 20		
	Miscellaneous,	221 07		
	Balance unexpended,	126 48	\$32,125 00	\$32,125 00
	North Adams Normal School: —			
	Salaries,	\$15,851 61		
	Model school,	3,810 41		
	Wages and labor,	4,441 39		
	Buildings and grounds,	5,712 90		
	School supplies,	1,819 17		
	Lectures, etc.,	236 30		
	Miscellaneous,	606 95		
	Agricultural department,	2,500 00		
			\$34,978 73	\$34,978 73
			Appropriation (chapter 105, Acts of 1908),	\$32,125 00
			Appropriation (chapter 105, Acts of 1908),	\$32,469 00
			Appropriation (chapter 257, Acts of 1908),	2,500 00
			Deficiency,	9 73

Salem Normal School :—			
Salaries,	\$19,399 91	Appropriation (chapter 105, Acts of 1908),	\$36,800 00
Model school,	4,103 06		
Wages and labor,	3,031 71		
Buildings and grounds,	4,289 91		
School supplies,	2,637 41		
Commercial department, etc,	2,012 77		
Miscellaneous,	1,324 45		
Balance unexpended,	78		
	\$36,800 00		
Westfield Normal School :—			
Salaries,	\$12,700 00	Appropriation (chapter 105, Acts of 1908),	\$32,370 00
Model school,	6,366 76		
Wages and labor,	4,012 19		
Buildings and grounds,	5,662 97		
School supplies,	3,076 54		
Lectures, etc.,	246 70		
Miscellaneous,	304 84		
	\$32,370 00		
Worcester Normal School :—			
Salaries,	\$16,149 75	Appropriation (chapter 105, Acts of 1908),	\$26,545 00
Model school,	2,249 88		
Wages and labor,	1,485 27		
Buildings and grounds,	3,809 73		
School supplies,	2,412 48		
Lectures,	52 50		
Miscellaneous,	413 54		
Unexpended balance,	21 85		
	\$26,545 00		

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONTINUED.

DR. APPROPRIATIONS FOR SUPPORT OF STATE NORMAL SCHOOLS — *Concluded.* CR.

1908.		1908.	1908.	Appropriation (chapter 105, Acts of 1908),	\$34,226 00
	Normal Art School: —				
	Salaries,	\$25,625 48			
	Wages and labor,	3,175 23			
	Buildings and grounds,	3,634 46			
	School supplies,	335 58			
	Lectures, etc.,	875 00			
	Miscellaneous,	270 77			
	Model school,	296 00			
	Balance unexpended,	13 48			
			\$34,226 00		\$34,226 00

APPROPRIATION FOR SALARIES.

1908.		1908.	Appropriation (chapter 105, Acts of 1908),	\$17,360 00
	George H. Martin, secretary,	\$4,500 00		
	John T. Prince, agent,	2,500 00		
	J. W. MacDonald, agent,	2,500 00		
	J. E. Warren, agent,	2,500 00		
	Frederic L. Burnham,	2,500 00		
	A. C. Blake, chief clerk,	1,200 00		
	E. F. Elwell, clerk,	1,000 00		
	George H. Varney,	660 00		
			\$17,360 00	\$17,360 00

APPROPRIATION FOR TRAVELLING EXPENSES OF AGENTS.

1907-08.				1907-08.	Appropriation (chapter 105, Acts of 1908),	\$2,000 00
	Paid John T. Prince,	\$306 31				
	J. W. MacDonald,	457 08				
	J. E. Warren,	524 48				
	F. L. Burnham,	384 88				
	Balance unexpended,	327 25				
			\$2,000 00			\$2,000 00

APPROPRIATION FOR AID TO NORMAL SCHOOL PUPILS.

1907-08.				1907-08.	Appropriation (chapter 105, Acts of 1908),	\$4,000 00
	Amounts paid: —					
	Bridgewater Normal School,	\$661 30				
	Fitchburg Normal School,	129 03				
	Frammingham Normal School,	258 06				
	Hyannis Normal School,	112 90				
	Lowell Normal School,	129 03				
	North Adams Normal School,	112 90				
	Westfield Normal School,	564 52				
	Worcester Normal School,	32 26				
	Balance unexpended,	2,000 00				
			\$4,000 00			\$4,000 00

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONTINUED.

CR.

APPROPRIATION FOR TEACHERS' INSTITUTES.

DR.

1908.	Paid for expenses and instructors for institutes at Ayer, Charle- mont, Chicopee, Dighton, Frank- lin, Great Barrington, Greenfield, Hudson, Huntington, Ipswich, Lunenburg, Middleborough, North Andover, Orange, Pitts- field, Seitate, Sheffield, Shel- burne Falls, Southwick, Stough- ton, Ware,	1908.	Appropriation (chapter 105, Acts of 1908),	\$2,000 00
	\$1,844 99 155 01			
	Balance unexpended,			\$2,000 00

APPROPRIATION FOR INCIDENTAL EXPENSES.

1908.	Amounts paid for : — Printing, Stationery, Expressage, Postage, Copying, etc., Books and periodicals, Telephone, Newspaper clippings, Advertising,	1908.	Appropriation (chapter 105, Acts of 1908),	\$2,000 00
	\$574 16 368 61 360 66 285 00 61 00 57 85 42 75 37 24 24 80			

Binding,	20 75		
Balance unexpended,	217 18		
		\$2,000 00	\$2,000 00

APPROPRIATION FOR EXPENSES OF MEMBERS OF THE BOARD.

	1908.	1908.	Appropriation (chapter 105, Acts of 1908),
Amounts paid:—			\$1,000 00
June 3, J. G. Thompson, visits to normal schools,	\$269 05		
July 14, Kate G. Wells,	49 69		
Oct. 16, Mrs. Ella L. Cabot,	11 90		
28, A. E. Winship,	10 56		
Nov. 10, C. Q. Richmond,	83 22		
18, Carroll D. Wright,	7 55		
20, Kate G. Wells,	20 41		
27, George I. Aldrich,	63 85		
	32 15		
Balance unexpended,	452 12	\$1,000 00	\$1,000 00

APPROPRIATION FOR EDUCATION OF ADULT BLIND.

	1908.	1908.	Appropriation (chapter 105, Acts of 1908),
Paid for teachers and their expenses,	\$4,957 29		\$5,000 00
Balance unexpended,	42 71	\$5,000 00	\$5,000 00

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONTINUED.

DR. APPROPRIATION FOR REGISTERS AND CENSUS BLANKS. CR.

1908.	Expended for printing,	\$1,026 93	1908.	Appropriation (chapter 105, Acts of 1906),	\$1,200 00
	Expressage and postage,	159 13			
	Balance unexpended,	13 94			\$1,200 00

APPROPRIATION FOR MEDICAL INSPECTION.

1908.	Expressage,	\$80 48	1908.	Appropriation (chapter 105, Acts of 1908),	\$800 00
	Printing,	581 85			
	Balance unexpended,	137 67			\$800 00

APPROPRIATION FOR EDUCATION OF DEAF CHILDREN.

1908.	Amounts paid as follows: —		1908.	Appropriation (chapter 105, Acts of 1908),	\$94,000 00
Jan. 3,	American School:			Deficiency,	3,201 80
	52 pupils, quarter commencing Dec 1, 1907,	\$3,312 50			
Feb. 5,	Boston School:				
	103 pupils, half year ending Jan 31, 1908,	12,527 82			
10,	Horace Mann School:				
	Transportation Oct. 15, 1907, to Jan. 15, 1908,	1,125 60			

13,	Sarah Fuller Home: 11 pupils, quarter ending April 1, 1908,	671 97	
April 4,	11 pupils quarter ending Jan. 1, 1908,	675 00	
7,	Sarah Fuller Home: Classes in defective speech, . .	174 50	
16,	Horace Mann School: 146 pupils, Feb. 1 to July 1, 1908,	11,099 67	
17,	Clarke School: 106 pupils, quarter ending July 1, 1908,	7,875 00	
	American School: 51 pupils, quarter commencing Mar. 1, 1908,	3,250 00	
May 5,	Horace Mann School: Transportation Jan 15 to April 15, 1908,	922 87	
9,	Clarke School: 107 pupils, quarter beginning Jan. 1, 1908,	7,875 00	
June 19,	Boston School: 105 pupils, half year ending June 17, 1908,	12,825 95	
July 2,	American School: 51 pupils, quarter beginning June 1, 1908,	3,187 50	
	<i>Amount carried forward,</i>	\$65,523 38	\$97,201 80

Amount carried forward,

\$97,201 80

FINANCIAL STATEMENT OF THE BOARD OF EDUCATION — CONCLUDED.
 APPROPRIATION FOR EDUCATION OF DEAF CHILDREN — *Concluded.*

Dr.		1908.	Amount brought forward, . . .
1908.	<i>Amount brought forward, . . .</i>		
July 6,	Sarah Fuller Home: 11 pupils, quarter ending July 1, 1908,	\$65,523 38	
11,	Clarke School: 107 pupils, quarter ending Oct 1, 1908,	675 00	
15,	American School: Clothing bill to July 1, 1908,	7,875 00	
Oct. 8,	Sarah Fuller Home: 14 pupils, quarter ending Oct 1, 1908,	331 05	
20,	American School: 45 pupils, quarter commencing Sept. 1, 1908,	503 10	
Nov. 2,	Clarke School: 107 pupils, quarter commencing Oct. 1, 1908,	2,812 50	
6,	Horace Mann School: Transportation, May 9 to Oct 15, 1908,	7,822 87	
12,	Horace Mann School: 143 pupils, Sept 1, 1908, to Feb. 1, 1909,	505 57	
		11,153 33	\$97,201 80
			\$97,201 80

C. B. TILLINGHAST, *Treasurer.*

APPENDICES.

APPENDIX A.

REPORT OF JOHN T. PRINCE,
AGENT OF THE BOARD.

SCHOOL ORGANIZATION AND SUPERVISION, KINDERGARTENS, SUB-PRIMARY CLASSES, PRIMARY AND GRAMMAR SCHOOLS, POWERS AND DUTIES OF SCHOOL SUPERINTENDENTS, CONVEYANCE OF CHILDREN TO SCHOOL, MENTALLY DEFECTIVE CHILDREN, BLIND AND DEAF CHILDREN, DELINQUENT CHILDREN.



REPORT.

To the Board of Education.

During the year just ended my time has been given mainly to the inspection of schools with superintendents; to the inspection of special schools for the deaf and for the blind; to attendance upon teachers' institutes and other educational meetings; and to investigations of complaints to the Board, mainly relating to the conveyance of children to school.

SCHOOL ORGANIZATION AND SUPERVISION.

In a special report nine years ago I presented certain statistics and conclusions relating to the organization and supervision of the schools. At that time the formation of superintendency unions was voluntary, but it was made compulsory two or three years later. As some marked changes have appeared since that report was issued, it seems fitting to call attention to some conditions of administration which most affect the schools. The conclusions reached are based partly upon the answers to questions recently sent out to superintendents and partly upon the results of personal observation.

KINDERGARTENS.

There are at present 38 cities and towns in which public kindergartens are kept. The number of kindergartens reported is 309, employing 540 teachers. These numbers are relatively very small, much smaller than they should be, and yet the increase has been very steady from the time of their beginning in Boston more than twenty years ago. The first statistics relating to kindergartens in the State at large were published ten years ago. At that time the number of kindergarten teachers was 372, with 12,550 pupils. The number of pupils reported this year is 17,257. The minimum age at

which children are admitted into these schools ranges from three to five years, and the course pursued is from one to two years. In most of the places having kindergartens the age of admission to the primary school is five years, only 5 places reporting five and a half and six years as the age limit of the kindergarten course. It may be supposed, therefore, that most of the kindergarten children reported are under five years of age, a large proportion of them being between four and five. Even with this limitation, the number of kindergarten children is but a small percentage of the whole number of children of the age mentioned. It is safe to say that in towns where kindergartens are established more than three-fourths of the children of kindergarten age do not attend. But the record of attendance in kindergartens is no indication of their worth, or of the popular interest in them. If they were as freely offered to the public as the primary schools are, the attendance would doubtless be greatly increased, especially in crowded parts of cities, where they are most needed. No doubt many cities and towns are deterred from opening and carrying on kindergartens by reason of the large expense involved. But even if the privileges of the kindergarten were freely offered, it is a question whether there should not be a readjustment of both kindergarten and primary school courses. To many parents the age of three seems too young for children to leave the homes, and to many also the exercises of the kindergarten do not appear to be well adapted to children over five. Again, there is a well-grounded objection to having children begin the formal work of the primary school as early as five. Some of these objections might be met by limiting the kindergarten course to one year, — from four to five, — and by establishing a connecting class for children from five to six, known as the sub-primary class.

SUB-PRIMARY CLASSES.

In a special report upon a course of studies for elementary schools, made to the Board in 1897, I recommended the establishment of connecting classes between the kindergarten or home and the elementary school, these classes to be known as "sub-primary classes." I proposed that the course pursued in

these classes should consist of an extension or modification of the manual and observational work of the kindergarten, supplemented by some of the nature work and drawing now pursued in our best primary schools and by a little reading and writing and number work. I explained that the proposed course should take the place of the course generally pursued in the first primary grade, and that the age of admission should be five years. Two years later I again urged the adoption of such a course, and gave among other reasons the following: —

In view of all that has been said by experienced teachers regarding the advisability of supplementing the work of the kindergarten by less formal work than is usually required in a primary school, it would seem unnecessary to plead for the introduction of the proposed class. Every primary school teacher realizes that the change is very great from the comparatively unrestrained freedom of the kindergarten, with its dozen or fifteen children, to the school where restrictions are made necessary by the large number of children and by the character of the work required. "Connecting classes" between the kindergarten and the primary school have been formed in several places, and they have invariably been found to be of great use in wisely leading the children into good school habits. Frequently the class exercises have been such as to permit pupils to omit a portion of the first-grade primary work.

But if the sub-primary class is needed for those children who have had the benefits of the kindergarten, much more is such a class needed for children who have not had the advantage of the better training. The change from the home to the school is even greater than that from the kindergarten to the school, and therefore needs the bridge that the proposed class offers. Most people can recall the ordeal through which they passed during the first few weeks of school life. Perhaps the modern school has made the ordeal less trying than it used to be; but we can scarcely realize how great, under the best conditions, the gap is between the freedom of the home and the constraints of the school-room, where forty or fifty children have to be controlled by a single teacher.

My observations during the ten years that have elapsed since the above was written have confirmed me in the advisability of the proposed change. Increased requirements are making it more and more difficult for children in the lowest grades to do the work prescribed, and at the same time to acquire proficiency in drawing, singing and nature study, which are

now demanded in our best primary schools. There are at present 16 towns in which sub-primary classes have been formed for children five years old, the work of the grades being begun in most cases one year later. Practice varies considerably in these towns, but in general it may be said that the work of sub-primary classes includes some of the occupations and games of the kindergarten, with very little formal work in reading and writing. Of course the plans are made to fit conditions, as far as possible. The following outline represents what is attempted in a sub-primary class for children of foreign parentage; it is taken from the Sutton course:—

The first work of these classes is the teaching of the names of playthings, objects in and about the schoolroom, clothing, names of portions of the body, and the meaning of the usual directions given by the teacher in governing the school.

Kindergarten games and songs are used; playthings from home, pictures and kindergarten material, such as sewing cards, paper for cutting and folding, cutting out of pictures from old magazines, pasting, and so forth, are used as aids in giving an understanding of spoken English.

Regular class periods are used for drills. The children are required to repeat everything said to them, or else to do what they are told to do, and then repeat the direction or tell what has been done. Later on, the children give directions for doing things.

As early as the month of January some of the children are given lessons in reading from the board. They vary greatly in the rapidity with which they gain an understanding of English, and also in the gaining of ability to express themselves. Some children of eight and nine find it a most difficult thing to express themselves, the linguistic nature being very sluggish. Some of the children make the advanced division of the grade during the year, and so are passed on to the second grade in June.

A little work in the line of writing and drawing is given to the more advanced class. No number work, except that which naturally comes in the conversation lessons, is given.

PRIMARY AND GRAMMAR SCHOOLS.

Length of Course.—For many years it was an almost universal custom in Massachusetts and other New England States to permit children to enter ungraded and primary schools at the age of five years, and to continue the course nine years up to

the high school. In other countries and in other parts of this country the custom has been to permit children to begin the work of the regular elementary school at six years of age, and to continue the elementary course eight years. Lately, led by the example of Boston, there has been a movement here in the direction of shortening the course below the high school to eight years, at the same time keeping the age of entrance five years, as before. Out of 329 cities and towns reporting, 119 either have an eight years' course or are working toward such a course. All the schools of these 329 places, except 22, admit beginners at five years of age. Fifteen admit them at six, 6 at five and a half and 2 at four. Thus it is that we find the custom growing here of attempting to force upon children from five to thirteen years of age the same work that is done elsewhere from six to fourteen years of age, and this in spite of the fact that the work required of elementary schools has in many places considerably increased.

There are two good reasons for not favoring an eight years' course to be begun with children five years of age. In the first place, such a plan could not be carried out thoroughly without over-taxing the pupils. This would be especially true if the present length of school day is maintained, and if, as is likely, more industrial work is demanded. In the second place, the formal work generally required in reading, writing and arithmetic is entirely too difficult for children of five, and the transition at that age too sudden from the freedom of the home to the formal work of the school.

The claim has been made that a saving of time is effected by changing the length of the course from nine years to eight. The claim can be substantiated only on the supposition that time is wasted, or that some of the subjects are needless in the longer course. If the time of pupils in a given course is properly employed and the subjects are what they should be, no shortening of that course can effect a saving of time without some loss. The same may be said of a saving of expense. It has been gravely asserted that there would be an actual saving of expense by one eighth if the course were shortened to that extent,—an assertion which would be true only

on the supposition that there is needless expense in the longer course, or else that the shortened course sends the children out earlier than they otherwise would go. The truth is, one of two things is likely to happen in schools requiring work to be done in eight years which in other places requires nine years to accomplish: either the pupils are "kept back" somewhere along the course for a repetition of work poorly done, or else some of the required work is left undone. That school authorities prefer the former alternative is shown by the fact that in many places pupils graduating from the nine years' course are about the same average age as those graduating from the eight years' course.

Reports recently received show that the average age of pupils graduating from eight-year courses in the cities and large towns was fourteen years, four months. The average age reported of pupils graduating from nine-year courses in places of corresponding size was fourteen years, five months. Quite a number of places having the shorter course reported the average age of graduates to be greater than the average age of graduates of the longer course. All this, if it means anything, means that real saving is brought about only by the employment of good teachers. If the division line between the grammar school and high school remains as it is, an eight-year primary and grammar course, beginning with children six years of age, seems fair and reasonable. Preceding this course there could be kindergarten or sub-primary classes corresponding to the infant schools of England and France.

Admission of Beginners. — Custom varies greatly in respect to the times of year at which beginners are permitted to enter school, although the returns show that in at least three fourths of the towns permission is limited to September or to the first two weeks of that month. Of the other towns the most seem to favor fall or spring, or September and one other month; then follow in order "September and October" and "any time" or "beginning of each term."

Circumstances, of course, determine this matter; but there appears to be no good reason, except the convenience of parents, for not limiting the entrance period to a single month of the year. In a few places the time for entering the primary school de-

pend upon the readiness of the children to do the work required, rather than upon the age. This plan applies, of course, to places which have kindergartens or sub-primary classes.

Promotions.—Reports from superintendents show that in a large proportion of towns all promotions are made by the superintendent, with the advice of the principal or teacher. A number of towns report that matters of promotions are left largely to individual teachers, the more doubtful cases being left to the principal or superintendent. In either plan the superintendent has, as he should have, the full control of the placing of pupils. In only 6 towns does the committee or a member of it appear to have anything to do with promotions. In all such cases the recommendations of the teacher or superintendent are acted upon by one or more members of the committee. In one city the superintendent is given no authority, not even advisory, in matters of promotion, the teachers alone sending along and keeping back whom they please. Their opinion is said to be based upon the daily work of pupils and the results of examinations.

From statements contained in the returns and from personal observation, I judge that written examinations given by superintendents or teachers are in some towns the controlling factor in determining the grade of pupils. In a few places the daily rating of the teacher, with averages of 70 per cent. and 80 per cent., appears to be the sole guide.

In my last report I spoke quite freely of the dangers of having promotions depend upon the results of written examinations, and of the folly of daily marks for any cause. I shall not, therefore, dwell upon the matter here more than to refer to the unfairness of determining the grade in which pupils shall work in this way. No two teachers agree in their estimate of the value of a pupil's work, either in recitation or in examination. Such is the difference of teachers in giving an examination and in marking the answers that in a given examination they might vary in the marks they would give to the same pupils from 10 to 30 per cent. If this is true, it is manifestly unfair to the pupils to let their promotion or non-promotion depend upon the teachers' marks alone or upon the results of examinations. Some teachers and superintendents

seem to think that absolute justice in promotion requires a rigid conformity to some standard of attainment, — a standard measured by per cent. marks. There are fewer offenders of this kind now than formerly, and yet they are sometimes found. One school which I recently visited was a sad example of this kind. The pupils of the school were in two divisions, with a row of empty seats between them to make the difference of attainment more manifest. One division consisted of pupils who had passed the 75 per cent. mark in their examinations, and the other of those who had fallen below that mark. Upon inquiry I learned that this was a test for promotion, and further, that a mark of $74\frac{1}{2}$ per cent. would oblige a pupil to go over the work again. This was a ninth grade, consisting of pupils who were presumably candidates for the high school, and some of them of both divisions were apparently over fifteen years of age. I am glad to believe that such a method of determining the pupils' ability to do the subsequent work is now quite exceptional.

There appears to be in some places a method of promotion from the grammar school to the high quite different from the method pursued in the grades. In something like 60 towns of the Commonwealth graduation from the grammar school does not permit pupils to enter the high school. These places include some of the smaller towns which have no high school, the pupils having to pass an examination before they can enter a high school in another town. A fairer method would be to follow the course pursued in some towns, of admitting all pupils on certificate signed by the superintendent and teacher. This may be done with the understanding that the work of the first year of the high school is to be repeated if not satisfactory.

Several plans have been devised for classifying and promoting pupils in such a way that the needs of all the pupils will be met and that strict justice to all will be secured.

One superintendent, Mr. S. Howard Chace of Dracut, reports his method of making promotions in the grades as follows: —

In April teachers send me the names of their pupils arranged in three columns: —

(a) Those who, in their opinion at the time, ought to be promoted.

(b) Those who ought not to be promoted.

(c) Those about whose promotion they are doubtful for any reason whatever.

This list is kept in the register. Whenever the superintendent visits the school he takes this list and records upon it his opinion of the desirability of promoting the pupils listed thereon, giving special attention to doubtful cases. Both oral and written work is examined, regular and special tests or quizzes. The superintendent's opinion is recorded in data not understood by the teacher, so that her judgment may not be influenced. On the last week in the year the teacher and superintendent confer as to what action will promote the best interests of the individual child.

Several other superintendents report virtually the same plan. The plan is evidently feasible for all the smaller places, certainly for all towns in superintendency unions. In the larger places the same plan could be followed, the supervising principal taking the place of the superintendent in passing judgment upon doubtful cases.

Other plans are followed by which some of the pupils are enabled to go over the required work of a grade more rapidly than others.¹ But any of these plans may well be supplemented by the employment of one or more teachers for a building whose duty it is to assist in good ways a few pupils who cannot work profitably in existing classes. A systematic plan for special promotions should also be followed by every superintendent and teacher.

POWERS AND DUTIES OF SUPERINTENDENTS.

The statutes provide that a superintendent shall be appointed in every town and city, but, apart from certain duties relating to school attendance, they do not prescribe his duties in any definite way. They provide that superintendents shall "have the care and supervision of the public schools," but "under the direction and control of the committee." This provision applies only to cities and towns not within an existing superintendency union, although it is by implication supposed to apply to all. It is not surprising, therefore, that the powers and

¹ For a record of various methods of grading and promotion, see the sixty-first report of the Massachusetts Board of Education, pp. 297-314.

duties of superintendents are somewhat uncertain and varied. The only wonder is that they are not more so.

Abstract of Returns. — Recently a question was asked of all the superintendents of the State respecting the duties and authority given to them by the school committees. So as to make the replies as definite as possible, specific duties were mentioned in the questions, as follows: —

- (1) Selection of text-books.
- (2) Selection of reference books.
- (3) Selection of apparatus.
- (4) Making*of course of studies.
- (5) Examination or certification of teachers.
- (6) Appointment of teachers.
- (7) Suspension of teachers.
- (8) Dismissal of teachers.
- (9) Inspection and direction of teachers' work.
- (10) Calling and conducting teachers' meetings.
- (11) Promotion of pupils.

The superintendents were asked to answer each question by one of the following words: "None," "Advisory," "Joint," "Full."

There were replies from 169 superintendents, representing 354 towns and cities.

In respect to the answers in general, it should be said that the terms "Advisory," "Joint" and "Full" were differently interpreted by the superintendents. Some of those who answered "Full" indicated in a note that they had full authority, subject to legal requirements, or, in some cases, subject to the sanction of a sub-committee. Others gave the answer "Advisory," or "Joint," who really had the same authority as those who had given "Full" for the answer. I shall, therefore, refer particularly to those cases in which little or no authority is given to the superintendent.

Text-books and Courses. — In respect to the first four duties mentioned above, one superintendent reports as having no duty or authority whatever. It is difficult enough to understand the reason for having sub-committees to pass upon the merits of text-books, even with the advice of the superintendent; but when text-books are selected and a course of studies is made

by the committee without such advice, the situation becomes almost ludicrous. In some of the boards there are sub-committees upon text-books and courses of studies, but in most cases the recommendation of the superintendent is followed.

Selection of Teachers. — Eight superintendents report that they have no duty to perform in relation to the selection of teachers. The towns in which they are working are rural towns, and the presumption is that the school committees in these towns are virtually holding on to the duties which were done by prudential committees fifty years ago. One superintendent reports that each member has absolute control of the schools assigned him, occasionally, however, seeking the superintendent's assistance in getting a new teacher. Others report that their aid is asked by the committee "only in emergencies," which perhaps may mean when there are no relatives or friends among the candidates.

Among those who report their duty in selecting teachers "Advisory," some admit that there is no rule or custom in the matter. Several allude to the custom of having all the candidates for a single position appear before the committee before an election occurs. One superintendent reports that one of the least competent of the teachers was retained, at an increase of salary, against his advice. Another complains that "considerations of church preference and other matters not directly connected with efficiency have more weight than they ought." Still another pleads for legal authority in this matter, saying that without such authority teachers are likely to be elected for other reasons than those of merit.

Suspension and Dismissal of Teachers. — As might be expected, the prerogative of superintendents in suspending or dismissing teachers in service is much more limited than in the selection of teachers to fill existing vacancies. Nearly 30 superintendents report that they have no authority in dismissing teachers, while some of the others report that the committees are frequently unwilling to follow their advice. It is to be hoped that the establishment of pension funds by the towns will make it easier for committees to retire teachers of long service.

Supervision. — The duty of inspecting and directing the

work of teachers is now almost universally committed to the superintendents. In only 10 towns is that duty shared in any degree by members of the school committee. The direct supervision by committees is slight and in most cases harmless, it being only a continuation of the aimless visitations of former days. If, however, the visits by committees were of the right kind, that is, if they were genuine visits of inspection for the observation of results, they would be of great service to the schools mainly in the intelligent support of the superintendent that they could give.

Teachers' Meetings. — What has been said of superintendents directing the work of teachers in visits applies equally to teachers' meetings. In only 11 towns do the committees take any hand either in calling or in conducting such meetings, and 4 of these towns are in a single superintendency union. In most of the towns the superintendent is given full power to call them, although in too many instances they are required to hold the meetings after school or in the evening.

In General. — Comparing the powers and duties now possessed by superintendents as shown in these reports with the same powers and duties published in my report of nine years ago, we see a marked gain in every item mentioned. This is particularly noticeable in respect to such duties as the selection of text-books, the nomination of teachers, the promotion of pupils, etc. In these duties the powers of superintendents are now for the most part as full as they should be, while the influence of committees and sub-committees in sharing the duties of supervision has manifestly decreased. But the improved attitude of the superintendents toward all the duties properly belonging to them is shown more in the quality of their work than in any statement of prescribed duties. While it is true that in some places the superintendent is obliged by an indifferent or careless board to give more of his time to matters of business which ought to be attended to either by board members or by a clerk, and while it is true also that superintendents are not equally efficient in professional intelligence and skill, I believe there is a general improvement in these respects. There is on the part of all concerned a clearer understanding of the importance and true function of skilled

supervision, and such supervision is in many places carried on with growing intelligence and devotion. Selections of both superintendents and teachers are more carefully made, and there is a greater degree of co-operation on the part of all.

The question is often asked, whether the professional duties of superintendents should not be recognized and perhaps required by statute law. A law of that kind might be of service, especially in correcting the attitude of a few committees who are assuming the duties that properly belong to a superintendent. But even with such a law the effectiveness of the supervision will depend more upon the spirit of the committee than upon any statement of duties that may be made.

CONVEYANCE OF CHILDREN TO SCHOOL.

During the past year there have been referred to me for investigation several complaints, mainly from parents, in relation to the conveyance of their children to school. Some of the complaints appeared to me to be trivial and unreasonable, as, for example, when parents objected to their children walking a mile and a quarter to school over an open road, and expected them to be carried at public expense; and when a few citizens desired a school to be maintained for the benefit of four or five children, and objected to their being carried to the central school.

On the other hand, I have found cases of genuine hardship and injustice, as when children living two miles or more from school were compelled to walk to school or pay their own fares on the electric cars. Two cases of like character came to my attention recently. In both cases the town had fixed the limit for free conveyance at a distance of two miles, and the school committee had, in consequence, refused to provide free conveyance for children who were living inside of the two-mile limit. The children in both cases were young, and the way somewhat woody and lonesome. Perhaps the feelings of the complaining parents were embittered somewhat by the fact that children were given free tickets who lived a little outside the two-mile limit, but who took the cars at the starting place of their own children. The plea of the school committee was that if these children were given free conveyance others in town

would make a similar demand, and that the town could not afford to pay so much. This is no reason why children should be subjected to needless hardship or danger of any kind. If the expense of conveyance is too great for any town, the State should give further assistance. But the fear is that towns sometimes drive too sharp a bargain with persons whose neighborhood school is closed; that even schools are closed for the very purpose of saving expense. It cannot be too strongly emphasized that the children whose neighborhood schools are closed should be treated as well as it is possible to treat them, to the extent at least of bodily protection. Distance limits should not be fixed by towns or by committees. The walking of a mile and a quarter or even a mile is under some circumstances a greater hardship than the walking of two miles or more under other circumstances. The character of the road, and the number, age, sex and health of the children should be considered in determining whether they are to be carried or not.

There is one other thing which should be considered in connection with this matter, and that is the kind of conveyance and oversight that are provided. I was asked recently to investigate a case in which it was charged that the carriage was not what it should be, and that there was not a proper supervision of the children while they were in the carriage. The complaint was made that, for want of oversight, the children were disorderly and sometimes immoral in words and acts. I found that the complaint was well grounded. The teachers admitted this, but felt that they had no authority in the matter.

In view of the possible dangers both to health and morals of improper conveyance, the towns should be charged with certain obligations whenever a consolidation of schools seems necessary. They should be compelled to provide, under proper penalties, such conveyance of the children to the distant school as will be safe for them and as comfortable as circumstances will permit. We are very properly urging the improvement of rural conditions, to the end of keeping as many of the children in the country as possible. If we are sincere in this effort, can we do less than to make the schools as easy to reach as possible? The best conveyance attainable is none too good for those who are compelled to go long distances to the school. We

are all agreed, I believe, that schools should not be consolidated and pupils be carried for financial reasons only. When a school is closed, we should be able to say to the patrons of the school that it is for the educational welfare of the children, and that the closing will not involve any physical or moral injury to them. May we not even go farther than this, and say that, when there is not a distinct social as well as educational gain to the children by consolidation, the schools may remain separate? There is danger, too, of considering the question of educational advancement of these children from the standpoint of city conditions rather than from possible country conditions.

The changes of educational means and methods which will be made in the near future will be seen and felt quite as much in the country as in the city. The country school has not had anything like the attention and direction that the city school has had. All the conditions that are possible in the country have not been fostered and utilized in education as city conditions have been. Country schools have, in consequence, been poor and uninteresting and country life unattractive.

Prof. L. H. Bailey, who is just now very prominent as an advocate and leader in what he calls "redirected" rural conditions, says in one of his latest books on "The State and the Farmer" (p. 157):—

All effective education should (1) develop out of experience; (2) this experience should have relation to vocation or to the pupil's part in life; and (3) every school should be the natural expression of its community.

And again (p. 160):—

It is not necessary to have an entirely new curriculum in order to redirect the rural school. If geography is taught, let it be taught in the terms of the environment. Geography deals with the surface of the earth. It may well concern itself with the school grounds, the highways, the fields and what grow in them, the forests, hills and streams, the hamlet, the people and their affairs. We are now interesting the child in the earth on which he stands, and, as his mind grows, we take him out to the larger view. A good part of geography in a rural community is, or should be, agriculture, whether so called or not.

It will take a long time to "redirect" the rural schools by such standards, and to bring them up to such a condition as

Professor Bailey advises. When they are, we shall probably hear less of the closing of rural schools and of hardships arising from conveying the pupils to distant schools.

MENTALLY DEFECTIVE CHILDREN.

From time to time complaints have been made by superintendents and teachers that there were in the schools exceptional children, who, for their own sake and for the sake of the other children, should be in special schools. Most of the children thus complained of were feeble-minded or mentally defective, and some of them were found so troublesome as to render it necessary to exclude them from the school. To ascertain how many of such children there are, I recently sent out inquiries respecting the number of feeble-minded children; also, the number of blind and deaf children, both in and out of the public schools. There was not a full response to the inquiries, owing to the fact that some of the superintendents were not able to give the number of defectives not in the public schools, and some were uncertain as to what constitutes feeble-mindedness, and so did not answer. In Boston, Springfield and Newton special schools for backward children have been provided. The children in these and other special schools, State and private, are not counted in the figures which follow.

The whole number of cities and towns reporting one or more defectives in school or out was 168. The other 186 cities and towns either did not report or reported no cases. In these 168 cities there are reported 479 feeble-minded children in school and 154 children of the same class out of school.

It is evident from the returns that some of the children reported as feeble-minded are simply backward or slow, although the explanations of the superintendents show that all of them are mentally deficient and require extra attention.

It is reasonable to suppose that there are as many of such children in cities and towns that did not report; so that the number of mentally deficient children in the entire State who need special treatment in separate classes or schools probably amounts to more than 1,200. These children, it is true, are not yet criminals, but some of them are likely to become so, unless they are properly cared for. If the expense of caring

for them is too great for the towns, the State should give extra assistance for the purpose. Quite likely a third of them should be placed in one or the other of the schools for feeble-minded; the rest could be cared for in local schools or classes.

BLIND AND DEAF CHILDREN.

The fewness of blind and deaf-mute children reported as being in the public schools, 15 in all, shows how difficult it is for towns unaided to educate such children. It is difficult, if not impossible, short of a regular census, to ascertain the number of blind and deaf children who are living at home, but who are not in school. Many superintendents report that they have no means of knowing the number of such children. The number reported, 26 blind and 29 deaf, does not probably represent the whole number in the towns reporting. There may be three times as many in the entire State who are not enjoying the benefits of a school. Happily, the generosity of the State and the ample accommodations in good special schools give assurance that these children can be well cared for.

DELINQUENT CHILDREN.

If it is difficult to get from school officials the exact number of defective children, it is quite impossible to ascertain the number of delinquents. The standards of delinquency are so varied that any report by teachers and superintendents cannot be relied upon. The number of children sent to reformatories and truant schools is by no means an indication of the number of delinquent children who need special care. There are in almost every school one or more pupils who are troublesome in one way or another, and who need extra attention, — more attention, in fact, than the regular teacher can give. These children need extra attention, not merely to enable them to do their work better, but to prevent them from wrong-doing, and to get them, if possible, into a normal state of order and obedience. If it seems wise to pursue a policy of preventing criminality in the feeble-minded, it is much more clearly so in respect to those who show signs of lawlessness. These children need to be segregated as early as possible from the other pupils, and to be given more individual care. Such treatment

might be the means of preventing them from that truancy or refractory conduct which would force them into an institution. But a home is what they need most. So important is the home influence as a prevention of criminality, that if parents are unwilling to co-operate with the schools, or if the home conditions are debasing, the State is justified, for its own protection as well as for the protection of the children themselves, to put them into homes where they will be properly cared for. For reasons of economy, if for no other reasons, these children should be rescued from the dangers of criminality which beset them, and the earlier that the measures for rescue are taken, the better.

Respectfully submitted,

JOHN T. PRINCE.

DEC. 31, 1908.

APPENDIX B.

REPORT OF J. W. MACDONALD,

AGENT OF THE BOARD.

LANGUAGE INSTRUCTION IN THE HIGH SCHOOLS OF MASSACHUSETTS.

REPORT.

To the State Board of Education.

While pursuing my work of high school visitation during the past year, I have made an effort to study as well as I could, the condition of instruction in languages, including English and literature. As preliminary to what I shall have to say in regard to it, I beg leave to present the following table which shows for each year the amount of time given to the different languages, as measured by recitation periods, and the number of pupils taking them, for every public high school in the State except one very small one, from which there were no returns.

Fifteen cities and towns report five-year courses in their high schools, beginning with the ninth grade. In about 20 or 25 other cities and towns Latin is taught in the upper grammar grade. One effect of this seems to be to reduce the number who take Latin in the high school.

One thing shown by the table, although it has been known before, cannot fail to attract attention. It is the rapid decrease from the first to the last year, in the number of pupils in the language classes, — a decrease in almost every case more rapid than the decrease in the number of pupils in the grades. The columns marked "English" and "Literature" show in every instance but three or four, the numbers in the different grades. As to the falling off in the grades, it should be taken into account that the present fourth-year class was about one-twelfth smaller when it entered than the present fourth-year class.

Where a small town has two or more co-ordinate high schools, these are tabulated as one.

The recitations per year are based on a forty-week year; to get the average actual number, however, the figures in the table should be reduced about five per cent.

Table showing the length of language courses as measured in recitations per year, and the number of pupils each year taking these courses.

[Numbers in the first column indicate the grades, from lowest (1) up. "E," means combined with English; "L," combined with literature; "Yes" or "No" shows whether or not the school has a course requiring no language but English.]

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Abington,	1	200	30	-	-	160	42	-	-	200	45	-	-	No.
	2	200	21	-	-	160	28	160	15	120	45	-	E.	
	3	200	12	120	1	120	33	-	160	13	80	-	E.	
	4	200	5	-	-	-	-	160	3	200	29	-	-	
Acton,	1	200	14	-	-	200	13	-	-	120	27	-	80	No.
	2	200	27	-	-	-	-	-	-	160	61	-	-	
	3	160	23	-	-	160	50	160	17	160	61	-	E.	
	4	160	12	-	-	160	27	160	11	160	37	-	-	
Amesbury,	1	200	45	-	-	-	-	-	-	120	93	-	80	Yes.
	2	200	30	200	2	200	90	-	-	80	82	-	80	
	3	200	10	200	6	200	40	200	30	80	51	-	160	
	4	200	8	200	4	200	25	200	15	40	40	-	-	
Amherst,	1	200	50	-	-	-	-	-	-	80	65	-	80	No.
	2	200	21	200	3	200	24	200	11	80	41	-	80	
	3	200	27	200	0	200	31	200	19	80	40	-	80	
	4	200	25	200	2	200	21	200	16	60	31	-	60	
Andover,	1	200	35	-	-	-	-	-	-	200	45	-	-	?
	2	200	26	-	-	160	30	-	-	160	30	-	E.	
	3	200	5	-	-	160	18	160	12	160	18	-	-	
	4	200	6	-	-	160	10	160	7	160	22	-	-	
Arlington,	1	160	67	-	-	-	-	-	-	120	125	-	-	No.
	2	200	54	-	-	-	-	-	-	160	112	-	-	
	3	200	30	200	10	120	60	-	-	120	60	-	E.	
	4	200	21	200	8	120	44	200	28	80	46	-	-	
	5	200	16	200	4	160	29	200	15	120	33	-	-	

Ashby,	160	1	5	120	-	-	4	-	-	120	5	E.	Yes.
	120	3	3	120	-	-	2	-	-	120	5	E.	Yes.
	120	3	2	120	-	-	3	-	-	120	3	E.	Yes.
Ashfield,	160	1	8	160	-	160	-	17	2	20	20	E.	Yes.
	160	2	12	160	-	160	-	2	2	20	21	E.	Yes.
	160	3	3	160	-	160	-	2	6	20	9	E.	Yes.
	160	4	2	160	-	160	-	5	-	20	7	E.	Yes.
Ashland,	200	1	12	200	-	-	9	-	-	80	19	E.	No.
	200	2	5	200	-	-	6	-	-	80	16	E.	No.
	200	3	6	200	-	160	6	11	9	80	9	E.	No.
	200	4	4	200	-	-	5	-	70	8	8	E.	No.
Athol,	200	1	19	200	-	-	-	-	-	120	70	E.	Yes.
	200	2	2	200	-	200	-	-	37	120	45	E.	Yes.
	200	3	8	200	-	200	17	-	5	120	20	E.	Yes.
	200	4	7	200	-	200	-	7	7	120	19	E.	Yes.
Attleborough,	200	1	52	200	-	-	45	-	26	80	102	E.	Yes.
	200	2	14	200	-	200	17	-	23	40	65	E.	Yes.
	200	3	15	200	-	200	11	-	7	40	43	E.	Yes.
	200	4	11	200	-	200	-	-	-	40	32	E.	Yes.
	200	5	11	200	-	-	-	-	-	80	21	E.	Yes.
Avon,	200	1	11	200	-	-	2	-	-	80	21	E.	Yes.
	200	2	8	200	-	-	13	-	-	40	15	E.	Yes.
	200	3	6	200	-	-	6	-	-	40	14	E.	Yes.
	200	4	0	200	-	-	-	-	-	40	7	E.	Yes.
Ayer,	200	1	18	200	-	-	24	-	-	40	37	E.	No.
	200	2	14	200	-	-	15	-	3	40	24	E.	No.
	200	3	5	200	-	160	8	-	1	40	15	E.	No.
	200	4	7	200	-	160	-	-	-	40	10	E.	No.
Barnstable,	200	1	33	200	-	-	25	-	11	120	51	E.	No.
	200	2	10	200	-	-	12	-	-	80	42	E.	No.
	160	3	5	160	-	200	-	-	-	160	29	E.	No.
	200	4	4	200	-	-	-	-	-	160	10	E.	No.
Barre,	160	1	12	160	-	-	8	-	-	40	15	E.	Yes.
	160	2	5	160	-	160	5	-	5	40	21	E.	Yes.
	160	3	4	160	-	160	4	-	4	40	12	E.	Yes.
	160	4	2	160	-	160	-	-	4	40	12	E.	Yes.

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Belchertown,	1	180	5	-	-	-	-	-	-	14	14	-	-	No.
	2	180	10	-	-	-	-	-	-	15	60	60	15	
	3	180	3	-	-	144	12	-	-	15	80	80	15	
	4	180	4	-	-	144	9	-	-	-	110	110	12	
Belmont,	1	160	11	-	-	-	-	-	-	34	160	160	-	No.
	2	160	3	-	-	200	28	200	30	15	160	160	-	
	3	200	3	-	-	160	22	160	12	22	160	160	-	
	4	200	4	-	-	160	10	160	13	16	160	160	-	
Bernardston,	1	200	6	-	-	-	-	-	-	16	40	160	16	No.
	2	200	5	-	-	120	2	120	0	6	40	160	6	
	3	200	0	-	-	120	5	120	2	40	40	160	5	
	4	200	0	-	-	100	0	100	0	-	160	160	1	
Beverly,	1	160	81	-	-	-	-	-	-	161	80	120	120	Yes.
	2	160	54	160	5	160	113	-	-	80	80	120	120	
	3	160	23	160	7	160	61	160	25	80	80	120	120	
	4	160	17	160	5	160	48	160	29	80	108	160	120	
	5	160	11	160	5	-	-	160	15	80	68	120	120	
Billerica,	1	200	12	-	-	160	16	-	-	18	160	160	-	No.
	2	200	7	-	-	160	12	-	-	15	160	160	-	
	3	200	6	-	-	160	7	160	3	160	160	12	-	
	4	200	4	-	-	160	4	160	7	160	160	7	-	
Blackstone,	1	200	21	-	-	-	-	-	-	45	140	80	80	No.
	2	200	10	-	-	-	-	-	-	21	140	140	140	
	3	200	11	-	-	120	14	-	-	40	40	80	80	
	4	200	11	-	-	120	14	-	-	40	40	80	80	
Bolton,	1	160	4	-	-	-	-	-	-	4	80	80	80	Yes.
	2	160	2	-	-	120	6	-	-	3	40	120	120	
	3	160	1	-	-	120	1	-	-	7	40	120	120	
	4	160	0	-	-	120	0	80	4	2	40	120	120	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Boston — Con. East Boston,	1	200	53	-	-	200	132	-	-	200	218	-	-	Yes.
	2	160	25	-	-	160	89	200	14	160	188	E.	E.	
	3	160	13	-	-	160	39	160	17	160	69	E.	E.	
	4	160	5	-	-	160	12	120	2	160	32	E.	E.	
Roxbury,	1	200	69	200	23	200	276	200	108	200	359	-	-	No.
	2	200	46	-	-	160	97	160	50	160	235	E.	E.	
	3	160	19	160	6	160	44	160	21	160	113	E.	E.	
	4	160	16	-	-	160	14	160	10	160	63	E.	E.	
South Boston,	1	200	76	-	-	160	238	160	85	200	310	-	-	Yes.
	2	200	38	-	-	160	96	160	21	160	159	E.	E.	
	3	160	18	200	16	160	21	160	7	160	101	E.	E.	
	4	160	11	200	0	120	8	120	0	160	47	E.	E.	
West Roxbury,	1	160	90	-	-	160	173	160	75	200	230	-	-	Yes.
	2	160	57	-	-	160	70	160	22	160	146	E.	E.	
	3	160	28	-	-	160	42	160	3	160	95	E.	E.	
	4	160	12	-	-	160	12	160	9	160	48	E.	E.	
Mechanic Arts,	1	-	-	-	-	-	-	-	-	100	531	-	-	No.
	2	-	-	-	-	100	256	-	-	100	256	E.	E.	
	3	-	-	-	-	200	167	-	-	100	167	E.	E.	
	4	-	-	-	-	200	65	200	38	100	81	E.	E.	
High School of Commerce, ¹	1	-	-	-	-	-	-	160	280	80	280	-	-	No.
	2	-	-	-	-	120	?	160	160	80	160	E.	E.	
	3	-	-	-	-	120	-	160	60	80	60	E.	E.	
	4	-	-	-	-	120	-	160	25	80	25	E.	E.	
Girls' High School of Practical Arts.	1	-	-	-	-	160	97	160	76	160	163	-	-	No.
	2	-	-	-	-	120	75	120	20	160	65	E.	E.	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Cambridge: — Latin,	1	200	158	—	—	—	—	—	—	100	158	—	—	No.
	2	200	140	—	—	200	73	200	66	40	140	—	—	
	3	200	108	200	20	100	71	100	100	36	100	—	—	
	4	200	72	200	14	100	61	100	18	72	100	—	—	
	5	200	55	200	17	—	—	—	—	—	—	—	—	
English,	1	200	54	—	—	200	39	—	—	80	224	—	—	No.
	2	200	37	—	—	200	29	—	—	80	160	—	—	
	3	200	13	—	—	200	52	200	33	L.	—	—	—	
	4	200	12	—	—	200	8	200	13	L.	—	—	—	
Manual Training,	1	—	—	—	—	—	—	100	196	200	196	—	—	No.
	2	—	—	—	—	—	165	200	0	100	153	—	—	
	3	—	—	—	—	—	67	200	64	100	46	—	—	
	4	—	—	—	—	—	—	200	39	200	70	—	—	
	5	—	—	—	—	—	—	—	—	—	—	—	—	
Totals,	1	—	212	—	—	—	112	—	—	—	158	—	—	No.
	2	—	177	—	—	—	262	—	262	—	560	—	—	
	3	—	121	—	20	—	265	—	36	—	264	—	—	
	4	—	84	—	14	—	180	—	116	—	219	—	—	
	5	—	55	—	7	—	8	—	52	—	211	—	—	
Canton,	1	160	30	—	—	—	—	—	—	—	—	160	30	No.
	2	160	9	—	—	—	22	—	—	40	19	120	19	
	3	200	7	—	—	120	8	—	4	40	8	120	8	
	4	200	4	—	—	160	11	160	3	80	10	120	11	
Carver,	1	160	2	—	—	—	—	—	—	120	5	80	5	No.
	2	—	—	—	—	—	2	—	—	120	2	80	2	
	3	—	—	—	—	—	—	—	—	120	0	80	0	
	4	—	—	—	—	—	1	—	—	120	2	80	2	

Douglas,	200	-	-	-	-	14	80	No.
	200	6	40	4	4	4	80	E.
	160	6	40	4	6	6	80	E.
	200	6	40	4	5	5	80	E.
Dover,	200	-	-	-	-	6	80	No.
	160	-	-	-	-	10	80	E.
Duxbury,	120	-	-	-	-	10	120	Yes.
	160	1	80	10	10	10	120	E.
	160	2	40	10	10	9	160	E.
	160	2	80	80	9	7	160	E.
	160	1	80	80	7	7	120	E.
East Bridgewater,	200	-	-	-	-	21	40	Yes.
	160	17	120	21	21	21	40	E.
	160	8	120	21	40	21	40	E.
	160	3	L.	L.	L.	9	160	Yes.
	160	3	160	160	160	160	160	E.
Easthampton,	200	-	-	-	-	24	80	Yes.
	200	21	80	80	26	26	80	E.
	200	9	80	80	80	80	120	E.
	200	4	40	40	16	6	160	E.
Easton,	200	-	-	-	-	40	120	Yes.
	160	31	40	40	33	33	120	E.
	160	12	40	30	30	33	160	E.
	160	11	40	30	33	11	120	E.
Edgartown,	200	-	-	-	-	4	80	Yes.
	160	7	200	200	12	12	80	E.
	120	9	200	200	9	9	80	E.
	120	-	200	200	5	5	80	E.
Essex,	160	-	-	-	-	18	160	No.
	160	13	160	160	13	13	160	E.
	160	15	160	160	12	12	160	E.
	160	5	160	160	5	5	160	E.
Everett,	200	52	160	160	245	245	-	Yes.
	200	80	160	160	180	180	-	E.
	200	55	160	160	32	32	160	E.
	200	25	120	120	L.	L.	130	Yes.
		16						E.

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Fairhaven,	1	200	20	-	-	-	-	-	-	200	44	E.	E.	No.
	2	200	14	-	-	200	36	200	9	200	31	-	-	-
	3	200	2	-	-	200	22	200	9	200	29	-	-	-
	4	200	7	-	-	200	20	200	4	200	17	-	-	-
Fall River,	1	160-200	150	-	-	-	-	-	-	160	324	E.	E.	Yes.
	2	160-200	73	200	11	160	128	200	39	160	218	-	-	-
	3	160-200	55	200	8	160-200	137	160-200	66	160	173	-	-	-
	4	160-240	48	200	22	160-200	52	160-200	26	160	178	-	-	-
Falmouth,	1	200	6	-	-	-	-	-	-	80	26	40	40	Yes.
	2	200	7	-	-	200	23	200	6	80	26	40	40	Yes.
	3	200	10	-	-	160	13	200	6	80	14	40	40	Yes.
	4	200	3	-	-	160	9	160	6	40	15	80	80	Yes.
Fitchburg,	1	200	71	-	-	200	27	200	-	160	217	-	-	Yes.
	2	200	41	200	6	200	55	200	8	132	160	-	-	Yes.
	3	200	28	200	7	200	54	200	23	160	96	-	-	Yes.
	4	200	21	200	1	200	16	200	33	160	30	-	-	Yes.
Foxborough,	1	200	23	-	-	-	-	-	-	120	36	80	80	Yes.
	2	200	7	-	-	200	10	160	11	120	23	120	120	Yes.
	3	200	4	-	-	200	9	160	2	80	13	120	120	Yes.
	4	200	3	-	-	-	-	-	8	80	8	-	-	Yes.
Framingham,	1	200	20	-	-	200	80	200	40	60	100	100	123	Yes.
	2	160	6	-	-	200	60	200	40	60	100	100	77	Yes.
	3	200	12	-	-	120	30	120	31	40	80	80	49	Yes.
	4	200	10	-	-	120	18	200	24	60	100	100	52	Yes.
Franklin,	1	200	13	-	-	-	-	-	-	80	32	120	120	Yes.
	2	200	12	-	-	200	32	200	3	80	28	120	120	Yes.
	3	200	11	-	-	200	13	200	11	80	22	120	120	Yes.
	4	200	2	-	-	200	5	200	0	80	16	120	120	Yes.

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Hamilton,	1	160	5	-	-	-	-	-	-	80	13	80	E.	No.
	2	160	6	-	-	100	10	-	-	80	10	80	E.	
	3	160	0	-	-	160	0	120	0	80	2	80	E.	
	4	160	0	-	-	160	0	120	0	80	0	80	E.	
Hanover,	1	200	9	-	-	-	15	-	-	80	18	120	E.	No.
	2	200	5	200	0	200	0	-	-	40	15	120	E.	
	3	200	6	200	0	200	9	-	-	40	9	120	E.	
	4	120	0	200	0	200	2	-	-	60	2	120	E.	
Hardwick,	1	160	14	-	-	-	-	-	-	120	18	E.	E.	No.
	2	160	13	-	-	160	12	-	-	120	19	E.	E.	
	3	160	4	-	-	160	9	120	2	120	9	E.	E.	
	4	160	3	-	-	120	11	120	2	120	13	E.	E.	
Harwich,	1	200	18	-	-	-	-	-	-	40	22	120	E.	Yes.
	2	200	6	-	-	160	9	-	-	40	12	120	E.	
	3	200	3	-	-	160	4	-	-	40	5	120	E.	
	4	200	2	-	-	160	8	-	-	40	12	120	E.	
Haverhill,	1	200	153	-	-	160	89	-	-	60	260	60	E.	Yes.
	2	200	90	200	10	160	140	-	-	80	135	80	E.	
	3	200	34	200	3	160	90	160	50	60	125	60	E.	
	4	200	27	200	6	160	63	200	65	80	130	80	E.	
Hingham,	1	200	33	-	-	-	-	-	-	80	60	120	E.	Yes.
	2	200	15	-	-	200	60	-	-	40	55	120	E.	
	3	200	3	-	-	160	33	200	11	40	36	160	E.	
	4	200	8	-	-	160	20	200	9	40	36	160	E.	
Holbrook,	1	200	19	-	-	-	-	-	-	80	19	80	E.	No.
	2	200	9	-	-	200	13	-	-	80	18	80	E.	
	3	200	5	-	-	200	0	160	10	80	11	80	E.	
	4	200	3	-	-	200	0	160	7	80	13	80	E.	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Ipswich,	1	160	18	-	-	-	-	-	-	40	-	180	46	No.
	2	180	7	150	21	160	15	160	15	L.	L.	120	21	
	3	320	5	160	0	160	15	160	6	-	-	120	15	
	4	280	2	200	1	160	7	160	6	-	-	120	7	
Kingston,	1	200	13	-	-	-	-	-	-	100	13	100	100	Yes.
	2	200	3	-	-	200	11	-	-	80	13	120	120	
	3	200	2	-	-	160	6	200	0	80	13	120	120	
	4	200	0	-	-	100	2	-	-	80	2	120	120	
Lancaster,	1	200	8	-	-	-	-	-	-	160	18	-	-	Yes.
	2	200	4	-	-	200	11	-	-	160	18	-	-	
	3	200	3	-	-	200	8	200	0	160	13	-	-	
	4	200	3	-	-	200	5	200	3	-	-	160	6	
Lawrence,	1	200	315	-	-	-	-	-	-	200	322	-	-	Yes.
	2	200	126	200	13	200	195	200	85	200	190	E.	E.	
	3	200	51	200	14	200	80	200	26	200	117	E.	E.	
	4	200	35	200	5	200	28	200	8	200	123	-	-	
Lee,	1	200	15	-	-	-	-	-	-	80	20	120	120	No.
	2	200	14	-	-	200	25	-	-	80	29	120	120	
	3	200	6	-	-	200	10	200	6	80	10	120	120	
	4	200	11	-	-	200	17	200	5	80	19	120	120	
Leicester,	1	200	-	-	-	-	-	-	-	80	26	80	80	No.
	2	200	-	-	-	200	16	-	-	80	16	120	120	
	3	200	-	-	-	160	15	200	-	40	15	120	120	
	4	200	-	-	-	160	17	160	-	40	17	120	120	
Lenox,	1	200	35	-	-	-	-	-	-	200	35	-	-	No.
	2	200	7	-	-	200	7	-	-	200	7	E.	E.	
	3	200	0	-	-	200	8	-	-	120	8	-	-	
	4	200	2	-	-	200	12	-	-	120	12	-	-	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Malden,	1	200	181	-	-	-	-	-	-	160	344	E.	E.	Yes.
	2	200	94	200	11	200	109	200	38	160	232	E.	E.	Yes.
	3	200	35	200	1	200	120	200	83	160	176	E.	E.	Yes.
	4	200	21	200	4	200	42	200	45	160	113	E.	E.	Yes.
Manchester,	1	200	25	-	-	-	-	-	-	120	45	80	80	Yes.
	2	200	8	-	-	200	16	200	2	120	16	80	80	Yes.
	3	200	5	-	-	200	5	200	1	120	15	80	80	Yes.
	4	200	2	-	-	200	4	200	1	120	6	80	80	Yes.
Mansfield,	1	200	24	-	-	-	-	-	-	20	40	180	180	Yes.
	2	200	12	-	-	200	31	200	-	20	30	180	180	Yes.
	3	200	10	-	-	160	18	160	11	160	40	27	160	Yes.
	4	200	4	-	-	160	6	160	6	40	14	160	160	Yes.
Marblehead,	1	200	8	-	-	-	-	-	-	40	50	80	80	No.
	2	200	13	-	-	200	41	200	20	40	42	80	80	No.
	3	200	5	-	-	200	33	200	13	40	34	80	80	No.
	4	200	6	-	-	200	18	200	13	40	26	120	120	No.
Marlborough,	1	200	48	-	-	-	-	-	-	160	102	E.	E.	Yes.
	2	160	46	200	4	160	49	160	30	166	68	E.	E.	Yes.
	3	160	15	160	0	160	40	160	20	160	58	E.	E.	Yes.
	4	200	5	160	3	160	19	160	5	160	45	E.	E.	Yes.
Marshfield,	1	200	12	-	-	-	-	-	-	80	80	80	80	No.
	2	160	3	-	-	160	10	160	-	80	10	160	160	No.
	3	160	4	-	-	160	8	160	-	80	10	160	160	No.
	4	160	0	-	-	160	8	160	-	80	10	160	160	No.
Maynard,	1	200	30	-	-	-	-	-	-	200	50	-	-	No.
	2	200	0	-	-	-	-	-	-	200	24	-	-	No.
	3	200	0	-	-	-	-	-	-	200	20	-	-	No.
	4	200	6	-	-	200	30	200	-	-	160	160	160	No.
	5	200	5	-	-	200	32	200	3	-	-	160	160	No.

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Millbury,	1	200	15	-	-	-	41	-	-	120	37	80	-	Yes.
	2	200	9	-	-	200	18	-	-	40	24	40	-	
	3	200	11	-	-	200	0	15	15	40	15	120	-	
	4	200	11	-	-	80	0	0	0	40	9	120	-	
Mills,	1	160	6	-	-	-	-	-	-	160	12	-	-	Yes.
	2	120	3	-	-	-	-	-	-	120	9	80	9	
	3	120	5	-	-	160	11	-	-	-	-	160	10	
	4	120	0	-	-	120	6	-	-	-	-	160	9	
Milton,	1	200	46	-	-	-	-	-	-	80	75	80	-	No.
	2	200	9	-	-	-	-	30	30	60	51	100	-	
	3	200	9	-	-	200	18	160	14	60	38	100	-	
	4	200	3	-	-	200	7	160	7	40	28	160	-	
Montague:— Turners Falls,	1	120	35	-	-	-	-	-	-	100	52	60	-	Yes.
	2	200	28	-	-	-	-	-	-	100	46	60	-	
	3	200	7	-	-	200	25	200	7	100	24	60	-	
	4	200	8	-	-	200	9	200	9	60	21	60	-	
	5	200	4	-	-	200	8	200	1	60	15	100	-	
Agricultural,	1	-	-	-	-	-	-	-	-	160	17	-	-	Yes.
	2	-	-	-	-	-	10	200	0	120	8	E.	-	
	3	-	-	-	-	200	2	200	2	120	10	-	-	
	4	-	-	-	-	200	2	200	5	160	7	-	-	
	5	-	-	-	-	200	2	200	3	160	7	-	-	
Nahant,	1	200	2	-	-	-	7	200	7	160	8	-	-	No.
	2	200	6	-	-	200	5	160	0	-	8	9	9	
	3	160	5	-	-	160	0	160	0	-	8	11	11	
	4	160	1	-	-	160	0	160	0	-	-	-	-	
Nantucket,	1	160	11	-	-	-	12	-	-	40	26	160	26	Yes.
	2	160	6	-	-	-	3	-	-	-	-	200	19	
	3	200	5	-	-	200	0	-	-	-	-	160	12	
	4	200	0	-	-	160	0	-	-	L.	L.	160	0	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
North Andover,	1	200	11	-	-	-	-	-	-	40	27	80	E.	Yes.
	2	200	9	200	13	200	8	200	40	24	80			
	3	200	3	200	7	200	10	200	40	17	80			
	4	200	4	200	8	200	2	200	40	14	80			
North Attleborough,	1	200	40	-	-	-	-	-	-	80	56	80	E.	Yes.
	2	160	24	-	-	-	-	-	-	40	44	120		
	3	160	6	-	-	160	20	160	40	32	120			
	4	160	14	-	-	160	14	160	40	24	120			
Northborough,	1	200	5	-	-	160	8	-	-	40	16	40	E.	Yes.
	2	200	0	200	0	160	2	-	-	40	5	40		
	3	200	4	160	6	160	6	-	-	40	8	80		
	4	160	1	200	5	160	5	-	-	40	4	80		
Northbridge,	1	200	30	-	-	200	43	-	-	200	60	E.	?	
	2	200	16	-	-	200	17	-	-	200	32			
	3	200	14	-	-	-	-	200	4	200	16			
	4	200	8	-	-	-	-	200	4	200	11			
	5	200	2	-	-	-	-	-	-	-	-			
North Brookfield,	1	200	27	-	-	-	-	-	-	-	-	160	No.	
	2	200	9	200	6	200	5	-	-	L.	9	120		
	3	200	8	200	3	160	11	-	-	L.	13	120		
	4	200	6	200	3	200	15	-	-	L.	15	120		
Northfield,	1	200	21	-	-	200	0	-	-	120	26	-	Yes.	
	2	200	11	-	-	200	7	-	-	-	-	120		
	3	200	5	-	-	200	2	-	-	L.	8	120		
	4	200	3	-	-	200	6	-	-	L.	10	80		
Northampton,	1	200	78	-	-	-	-	-	-	160	90	E.	Yes.	
	2	200	38	200	5	200	50	200	36	120	77			
	3	200	25	160	4	160	42	160	33	120	85			
	4	200	40	160	7	160	38	160	15	160	73			

Norton,	1	200	—	8	200	—	—	120	12	E.	Yes.	
	2	200	—	2	160	—	120	8	8			
	3	200	—	3	160	—	120	3	8			
	4	200	—	0	120	—	—	0	—			
Norwell,	1	200	—	10	—	—	80	15	E.	Yes.		
	2	160	—	1	160	—	40	13			80	
	3	160	—	3	160	—	40	7			120	
	4	160	—	3	160	—	40	8			100	
Norwood,	1	200	—	25	—	—	80	104	E.	Yes.		
	2	200	200	40	—	—	40	52			80	
	3	200	200	6	200	—	40	13			80	
	4	200	200	4	200	—	40	32			80	
Oak Bluffs,	1	160	—	7	—	—	40	10	E.	Yes.		
	2	120	—	5	160	—	40	5			80	
	3	120	—	0	120	—	40	3			80	
	4	120	—	0	—	—	40	0			80	
Orange,	1	200	—	26	—	—	160	L.	Yes.	Yes.		
	2	200	—	16	—	—	80				52	50
	3	200	—	12	200	—	160				48	160
	4	200	—	15	160	—	160				37	120
Orleans,	1	200	—	8	—	—	40	20	E.	Yes.		
	2	200	—	4	160	—	—	19			80	
	3	200	—	0	160	—	—	6			120	
	4	200	—	1	160	—	—	10			120	
Oxford,	1	200	—	10	—	—	200	L.	No.	No.		
	2	200	—	9	160	—	200				24	200
	3	200	—	3	160	—	160				20	160
	4	200	—	4	160	—	160				7	160
Palmer,	1	200	—	20	—	—	40	29	E.	No.		
	2	200	—	13	200	—	40	38			80	
	3	200	—	6	200	—	40	18			160	
	4	200	—	6	200	—	40	23			100	
Peabody,	1	120	—	42	—	—	—	160	E.	Yes.		
	2	200	—	34	—	—	40	79			80	
	3	200	200	29	—	—	40	57			80	
	4	200	200	17	200	—	40	36			80	
	5	200	200	13	200	—	40	39			160	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Courses with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Pembroke,	1	200	13	-	-	-	8	-	2	13	120	-	1	No.
	2	120	2	-	-	200	2	120	0	L.	120	120	2	
	3	120	0	-	-	200	-	-	-	L.	L.	120	1	
	4	120	0	-	-	-	-	-	-	-	-	-	-	
Pepperell,	1	200	28	-	-	-	-	-	-	L.	L.	160	37	No.
	2	200	16	-	-	-	-	120	4	-	160	20		
	3	200	4	-	-	200	9	120	4	-	200	15		
	4	200	1	-	-	200	7	80	1	-	200	8		
Petersham,	1	160	10	-	-	-	6	-	3	19	80	10	Yes.	
	2	160	1	-	-	160	8	160	0	-	120	8		
	3	160	0	-	-	160	3	160	0	-	120	8		
	4	160	4	-	-	160	3	-	-	-	120	8		
Pittsfield,	1	200	96	-	-	-	-	-	-	40	40	40	117	No.
	2	200	83	17	17	80	60	200	37	40	40	40	105	
	3	200	35	200	11	200	22	200	34	40	40	200	35	
	4	200	24	200	5	160	21	200	18	40	40	200	18	
Plainville,	1	200	1	-	-	-	5	-	4	10	120	80	Yes.	
	2	200	2	-	-	200	4	120	4	120	11	80		
	3	200	0	-	-	200	4	120	0	40	40	40		
	4	200	4	-	-	120	1	120	1	40	5	80		
Plymouth,	1	200	44	-	-	-	-	-	29	L.	L.	160	90	Yes.
	2	160	22	-	-	200	32	200	28	-	160	40		
	3	160	12	-	-	160	30	160	0	-	160	40		
	4	160	5	-	-	160	16	160	0	-	160	26		
Princeton,	1	200	5	-	-	-	5	-	-	18	18	140	No.	
	2	200	0	-	-	140	5	-	-	18	18	80		
	3	200	0	-	-	140	4	-	-	18	18	80		
	4	200	0	-	-	140	3	-	-	18	18	80		

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Sandwich,	1	200	6	-	-	-	-	-	-	L.	L.	120	10	Yes.
	2	200	0	-	-	160	2	200	6	-	120	3		
	3	240	3	-	-	160	6	200	2	-	120	6		
	4	200	0	-	-	100	3	200	3	-	120	6		
Saugus,	1	200	30	-	-	-	-	-	-	60-80	54	60-80	E.	Yes.
	2	160	15	-	-	160	16	160	15	60	40	100		
	3	160	16	-	-	160	21	160	33	60	36	100		
	4	160	7	-	-	160	8	160	9	40	12	120		
Scituate,	1	160	19	-	-	-	-	-	-	-	-	160	31	No.
	2	160	10	-	-	120	20	-	-	L.	L.	160	26	
	3	160	6	-	-	120	11	120	5	-	-	120	17	
	4	120	2	-	-	120	5	120	7	-	-	120	11	
Sharon,	1	200	26	-	-	-	-	-	-	160	36	-	11	Yes.
	2	200	5	-	-	200	8	-	-	-	-	120	15	
	3	200	6	-	-	200	12	200	2	L.	L.	120	4	
	4	160	0	-	-	160	2	200	2	-	-	120	4	
Sheffield,	1	200	11	-	-	-	-	-	-	-	-	120	11	No.
	2	200	4	-	-	160	13	160	0	L.	L.	120	10	
	3	200	6	-	-	160	0	120	0	-	-	120	3	
	4	200	0	-	-	160	9	120	0	-	-	120	8	
Shelburne,	1	200	40	-	-	-	-	-	-	80	51	-	E.	No.
	2	200	30	-	-	-	-	-	-	80	40	-	E.	
	3	200	15	-	-	200	16	200	18	80	30	-	E.	
	4	200	12	-	-	200	21	200	26	80	30	-	E.	
Shirley,	1	200	8	-	-	-	-	-	-	160	11	-	-	No.
	2	200	7	-	-	160	11	-	-	L.	L.	120	11	
	3	200	4	-	-	160	7	120	3	-	-	120	8	
	4	200	1	-	-	160	2	120	2	-	-	120	2	

Shrewsbury,	1	200	-	-	-	-	14	-	40	13	80	E.	Yes.
	2	200	-	-	-	-	13	-	40	8	80	E.	
	3	200	-	-	-	-	13	-	40	8	80	E.	
	4	200	-	-	-	-	6	-	40	9	80	E.	
Somerville:— Latin,	1	200	45	200	-	-	10	99	L.	L.	120	162	No.
	2	200	40	200	-	-	25	200	58		143	143	
	3	200	30	200	-	-	104	200	70		160	102	
	4	200	-	-	-	-	-	200	-		120	104	
English,	1	200	-	-	-	-	161	200	40	457	120	E.	Yes.
	2	200	-	-	-	-	164	200	40	321	120	E.	
	3	200	-	-	-	-	78	200	37	224	120	E.	
	4	200	-	-	-	-	53	200	31	184	120	E.	
	5	200	-	-	-	-	2	200	1	3	120	E.	
Totals,	1	312	-	45	-	-	-	22	619	-	E.	-	
	2	222	-	40	-	-	-	137	464	-	E.	-	
	3	148	-	30	-	-	-	95	326	-	E.	-	
	4	109	-	-	-	-	-	101	288	-	E.	-	
	5	1	-	-	-	-	2	1	3	-	E.	-	
Southborough,	1	190	-	-	-	-	16	-	40	26	40	E.	Yes.
	2	200	-	-	-	-	9	-	80	16	40	E.	
	3	160	-	-	-	-	4	-	80	8	80	E.	
	4	160	-	-	-	-	6	-	80	11	80	E.	
	5	160	-	-	-	-	4	-	80	4	80	E.	
Southbridge,	1	200	-	200	-	-	30	200	80	40	80	40	No.
	2	200	0	200	-	-	27	200	80	25	80	25	
	3	200	0	200	-	-	6	200	120	80	120	30	
	4	200	1	200	-	-	0	200	0	30	120	27	
South Hadley,	1	200	-	-	-	-	26	-	40	34	120	E.	Yes.
	2	200	-	-	-	-	6	-	40	26	120	E.	
	3	200	-	-	-	-	7	160	40	15	120	E.	
	4	200	-	-	-	-	0	160	40	13	120	E.	
Spencer,	1	200	-	-	-	-	18	-	80	40	40	E.	Yes.
	2	200	-	-	-	-	16	200	80	21	40	E.	
	3	200	-	-	-	-	9	160	40	16	80	E.	
	4	200	-	-	-	-	9	160	40	17	80	E.	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Springfield:— Central,	1	200	212	—	—	200	172	—	—	200	213	—	—	No.
	2	200	78	5	—	200	74	85	200	143	200	—	—	
	3	200	84	12	—	200	37	28	200	150	200	—	—	
	4	200	66	12	—	200	10	20	200	152	200	—	—	
Technical,	1	200	46	—	—	—	—	—	—	80-140	395	—	—	Yes.
	2	200	22	—	—	200	145	—	—	80-120	252	—	—	
	3	200	14	—	—	200	75	33	200	40-80	183	—	—	
	4	—	—	—	—	120	45	40	200	80-120	60	—	—	
Totals,	1	—	258	—	—	—	172	—	—	—	608	—	—	—
	2	—	100	5	—	—	219	85	—	—	405	—	—	
	3	—	98	12	—	—	112	61	—	—	333	—	—	
	4	—	66	12	—	—	55	60	—	—	212	—	—	
Sterling,	1	160	2	—	—	160	12	—	—	160	7	—	—	No.
	2	160	3	—	—	160	5	—	—	160	12	—	—	
	3	160	0	—	—	160	—	—	—	160	4	—	—	
Stockbridge,	1	200	3	—	—	—	—	—	—	80	10	—	—	Yes.
	2	200	9	—	—	200	11	—	—	80	16	—	—	
	3	200	2	—	—	120	7	4	200	80	12	—	—	
	4	200	2	—	—	130	2	2	120	80	3	—	—	
Stoneham,	1	200	18	—	—	—	—	—	—	120	44	—	—	Yes.
	2	200	19	—	—	160	47	—	—	40	44	—	—	
	3	200	9	—	—	120	19	9	200	L.	L.	—	—	
	4	200	9	—	—	120	20	20	120	L.	L.	—	—	
Stoughton,	1	200	16	—	—	—	—	—	—	120	34	—	—	Yes.
	2	160	7	—	—	—	—	—	—	40	18	—	—	
	3	160	6	—	—	160	15	12	160	40	15	—	—	
	4	200	6	—	—	160	9	7	160	40	11	—	—	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Upton,	1	200	10	-	-	-	-	-	-	80	25	80	80	Yes.
	2	200	4	-	-	200	16	-	-	80	20	80	80	
	3	200	5	-	-	200	15	-	-	80	20	80	80	
	4	200	2	-	-	200	7	-	4	80	11	80	80	
Uxbridge,	1	200	13	-	-	-	-	-	-	120	26	80	80	Yes.
	2	200	6	-	-	-	-	-	-	120	16	80	80	
	3	160	0	-	-	200	10	-	-	80	21	80	80	
	4	160	1	-	-	200	8	-	-	40	5	120	120	
Wakefield,	1	200	55	-	-	-	-	-	-	40	140	120	120	No.
	2	160	23	200	15	160	94	-	-	40	94	80	80	
	3	160	27	200	3	160	42	160	39	40	78	80	80	
	4	160	10	160	4	160	18	160	16	40	59	120	120	
Walpole,	1	200	28	-	-	-	-	-	-	-	-	200	43	Yes.
	2	200	21	-	-	200	6	200	22	L.	L.	160	34	
	3	200	9	-	-	200	6	200	15	-	-	200	27	
	4	200	6	-	-	200	4	200	4	-	-	200	18	
Walham,	1	160-200	101	-	-	-	-	-	-	40	196	80	80	No.
	2	200	58	200	0	-	-	-	129	40	129	80	80	
	3	200	36	200	7	-	-	-	77	40	83	80	80	
	4	200	30	200	4	200	65	200	26	40	83	80	80	
Ware,	1	200	21	-	-	-	-	-	-	-	-	150	39	Yes.
	2	200	18	200	6	200	26	-	-	L.	L.	150	34	
	3	200	6	200	0	200	12	-	-	-	-	150	22	
	4	200	6	200	2	200	10	200	6	-	-	150	19	
Wareham,	1	200	8	-	-	-	-	-	-	160	36	40	36	No.
	2	200	3	200	0	200	15	200	-	160	28	40	28	
	3	200	6	200	0	200	15	200	8	L.	L.	160	19	
	4	160	3	160	0	160	6	160	3	-	-	200	7	

Table showing the length of language courses as measured in recitations per year, etc. — Continued.

CITIES AND TOWNS.	Grade	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Westford,	1	200	9	-	-	-	-	-	-	80	80	120	21	} No.
	2	200	2	-	-	200	22	-	-	80	80	120	22	
	3	200	0	-	-	160	5	-	-	L.	L.	120	4	
	4	200	0	-	-	-	-	-	-	-	-	120	4	
Westminster,	1	175	1	-	-	-	-	-	-	20	20	-	9	} Yes.
	2	175	4	-	-	-	-	-	-	20	20	80	4	
	3	175	12	-	-	144	4	-	-	40	40	150	4	
	4	200	1	-	-	-	-	-	-	-	-	200	6	
West Newbury,	1	200	1	-	-	-	-	-	-	-	-	200	16	} Yes.
	2	160	8	-	-	-	-	-	-	-	-	120	16	
	3	200	2	-	-	160	6	-	-	-	-	120	11	
	4	200	3	-	-	-	-	160	6	-	-	120	4	
Weston,	1	200	13	-	-	200	9	-	-	40	40	120	25	} No
	2	200	8	-	-	200	11	-	-	40	40	80	17	
	3	200	5	-	-	200	8	-	-	40	40	120	11	
	4	200	1	-	-	-	-	200	5	40	40	160	8	
Westport,	1	200	5	-	-	?	?	-	-	-	-	160	5	} Yes.
	2	200	2	-	-	-	-	-	-	-	-	160	2	
West Springfield,	1	184	38	-	-	-	-	-	-	120	64	80	64	} No.
	2	200	24	200	2	-	-	-	-	48	48	48	48	
	3	200	21	200	7	200	43	-	-	L.	L.	80-160	53	
	4	184	15	200	4	96-256	38	-	-	-	-	152-132	?	
Weymouth,	1	200	57	-	-	-	-	-	-	80	106	40	40	} Yes.
	2	200	37	-	-	160	80	-	-	80	88	40	40	
	3	160	27	-	-	160	41	160	22	40	60	120	120	
	4	160	10	-	-	160	24	160	12	40	38	160	160	
Whitman,	1	200	54	-	-	-	-	-	-	40	64	120	64	} Yes.
	2	200	15	-	-	200	15	-	-	80	80	40	40	
	3	200	10	-	-	200	27	-	-	80	80	80	80	
	4	200	6	-	-	200	19	200	8	40	26	120	120	

Table showing the length of language courses as measured in recitations per year, etc. — Concluded.

CITIES AND TOWNS.	Grade.	LATIN.		GREEK.		FRENCH.		GERMAN.		ENGLISH.		LITERATURE.		Course with no foreign language.
		No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	No. of recitations.	No. of pupils.	
Worcester— <i>Con.</i>	1	280	53	—	—	200	186	—	—	—	—	200	238	} Yes.
	2	280	69	12	12	200	136	200	77	—	—	200	180	
	3	200	30	9	9	200	22	200	87	—	—	200	122	
	4	200	30	6	6	200	18	200	15	—	—	200	131	
Totals,	1	—	203	—	48	—	333	—	91	—	—	—	768	} —
	2	—	243	—	48	—	307	—	208	—	—	—	485	
	3	—	141	—	25	—	180	—	182	—	—	—	356	
	4	—	118	—	15	—	106	—	79	—	—	—	339	
	5	—	9	—	—	—	—	—	—	—	—	—	9	
Wrentham,	1	200	8	—	—	—	—	—	—	—	—	200	18	} No.
	2	200	2	—	—	200	8	—	—	—	—	200	11	
	3	200	0	—	—	200	4	200	11	—	—	100	8	
	4	200	2	—	—	120	3	200	2	—	—	100	3	

One who examines the preceding table cannot but be impressed with the evidence of the rapid decline in the study of Greek, shown not only by the number of schools that have dropped it from their programs, but also by the small number of pupils electing it where it is still offered.

An inquiry into the condition of Massachusetts high schools in 1899, the results of which were published in the sixty-third report of the Board, showed that of the 248 general high schools in the State, all but 81 (these the very smallest) offered instruction in Greek and had classes in it; now, of these same schools, all but 82 have dropped it, and several others report that they are to discontinue it after the present year.

There are many, of whose education Greek has been a part, who will regret this tendency, and undoubtedly much in the way of culture will be lost from the schools; but to spend so large a part of the time given to secondary education, on two dead languages, which to a large extent duplicate each other's educational values, seems undesirable, and the option between Latin and Greek proves to be working fatally for the latter. It will be a good while yet, however, before Greek entirely disappears. It has its advocates, and it is a valuable element in the training for at least one of the learned professions. It will undoubtedly be taught for a long time yet in the stronger high schools and in private academies.

There are a few high schools in the State that offer instruction in Spanish if enough pupils ask for it to justify the formation of a class, but the language can hardly be said to have a standing in courses of studies as yet. Indeed, there is a feeling among language teachers that the high school is overloaded with language instruction already, and there are those who think that we altogether overestimate the value of a foreign language as an element of a liberal education. For one, I believe that pupils as a rule get from their high school courses an altogether too small amount of useful knowledge, — knowledge of physics and chemistry, of physiology and hygiene, of history and economics, of almost everything, in short, which man needs to know in order to know how to live; yet much of this has been crowded out to make room for instruction in languages that rarely goes beyond the mechanical stage. It will be seen by the

last column of the table that nearly half of the high schools of the State provide no courses for pupils who do not wish to take a foreign language. This is to be expected in special classical schools, but in a general high school it seems to me to show lamentable narrowness. There are subjects enough to make up a course, that are far more worth knowing than the rudiments of a language. It is suggestive, in this connection, that neither the Greeks nor the Romans, whose literature we have so long studied as models, learned any language but their own; and that while Rome was extending her dominion and civilization, her generals had to depend for interpreters on the people they were conquering.

The opinion is occasionally expressed that Latin also should be dropped from the high school curriculum, and its place supplied by a modern language. To this opinion I do not subscribe. It is based on the notion that there is greater utility in a living language than in a dead one. This seems plausible if one does not stop to reflect that the utility of what one learns, depends, not on the thing itself, but on the use he makes of it.

Let it be granted that very few who study Latin, except those who teach it, keep it up or make any direct use of it after they leave school or college; the same is true, I believe, to about an equal percentage of those who have studied the modern languages. In this busy age, few whose mother tongue is a language rich in literature, will ever keep any other language up to the utility point, unless they teach it or go to live where it is spoken. In choosing, then, the language to be studied, for forty-nine out of fifty pupils, the question is not one of use, but rather of by-products, as one may say; that is, of the discipline and intellectual equipment that they will get from the study. To show where the superiority in this respect lies, more will hardly be necessary than to name the literature read in connection with Latin, and compare it, as a means of producing intellectual fiber, with such literature as Sandeau's "Mlle. de la Seigliere," Jules Verne's "Tour du monde en quatre vingts jours," Merimee's "Colomba," Dumas' "La Tulipe noire," Hauff's "Das Kalte Hertz," Zschokke's "Der zerbrochene Krug," Storm's "Immensee" and Von Hillern's "Höher als die Kirche." These are all very pretty little stories, told in

choice language and in a charming style, and they are admirably suited to the purpose for which they were written, — an easy and enjoyable pastime for a leisure hour; but they contain very little that is of general or fundamental educational value, as compared with Cæsar, for example, wherein the pupils are made familiar with events which were in a way the very beginnings of the history and civilization of Europe and America, and which show how the world's progress has been effected.

It is urged that modern languages are easier than Latin. This is probably true in some respects. Certainly the literature read in connection with them is very much easier, — just such literature, in fact, as people without any educational end in view would read any way; but it has hardly been established, I think, that easiness is one of the qualities that gives educational value to a subject. Is it not more likely that if the work of the high school calls for no greater mental effort than outside boys and girls of their own volition put into their reading, the former, as an educational uplift, will be of as little value as the latter?

But even on the basis of utility, the argument is not all on the side of the modern languages. Latin is the official language of a church that counts its communicants in this country by the millions.

Language instruction in the high school is much hampered by a lack of teachers properly equipped and trained, and by the unwillingness of pupils to buckle down to study.

Building on the work of the high school, it would seem as if the colleges ought to give a high degree of practical efficiency in language training, but judged by the teaching test, the results are somewhat disappointing. Their graduates have learned considerable about languages, or rather have filled a great many note books with information about them, but somehow have not acquired the facility in the use of them that a teacher needs.

As to the difficulty of getting pupils to work, this may be in part due to the teaching. One thing, however, is sure; a great deal more could be accomplished if pupils could be induced to take a greater interest in their own education.

Of course all that I have said of the disciplinary value of the classical languages as compared with the modern, rests on

the assumption that both are taught equally well. The method of teaching is, after all, the thing of chief importance. I wish therefore to call attention to this somewhat in detail, beginning with Latin.

Latin. — It is not uncommon for the advocates of any particular subject in school courses to argue for it on the assumption that students who take it always get from it the intellectual and cultural benefit which it is especially adapted to bestow. But those who have at times heard arguments for the introduction or continuance of particular lines of study, and have also noted the results of the study, well know how wide, sometimes, the chasm is between theoretical educational values and actual accomplishments.

Whether or not a subject is imparting the intellectual endowments that it ought, depends wholly on how the teacher presents it and how the pupil applies himself to learn it. These "how's" may be such as to more than nullify all the good of which the subject is capable.

For this reason, it seems to me well, occasionally, to question the value of a subject that costs the schools so much in time and money as Latin does, and to try to ascertain whether the study is yielding in any way an adequate return.

What, then, is the educational value of Latin? Does it justify the cost; and if so, are the prevailing methods of teaching it reasonably productive of results?

These are fair questions, and although it has been done many times heretofore by abler men, I shall venture to discuss them once more.

What, then, are the valid reasons why Latin should hold so prominent a place in the high school course of studies?

1. It is one of the components of our mother tongue, and directly or through the French, has contributed a large part of our vocabulary.

Let me say, however, that this makes a knowledge of Latin more valuable to the etymologist than to the masses. Indeed, teaching pupils new English words through the medium of their Latin originals, may easily be carried too far. If we remember that one's first impression of a new word is the most persistent, it is easy to see the harm that would result

if pupils had first learned the underscored words in the following quotations by associating them with the meanings of the Latin words from which they are derived: —

“It’s only *noble* to be good.”

“*Virtue* could see to do what virtue would
By her own radiant light.”

BRUTUS. Kneel not, gentle Portia.

PORTIA. I would not need if you were *gentle* Brutus.

It is a sound principle that children should make their first acquaintance with a common word of their own language by its use and meaning *in* that language. After a word in this way has become well sensed, it will be sometimes interesting and instructive, especially to scholarly people, to trace out its history and changes of meaning; indeed, there are few studies more fascinating.

What I have just said, however, applies only to common words. On the other hand, there is a large number of technical terms and phrases in professional and scientific vocabularies with which the opposite course is better. These are far more comprehensible to one who is acquainted with Latin than to one who is not, and are learned from that side more easily and correctly. This suggests my next point.

2. In the various departments of natural history it has been found necessary to adopt an international nomenclature to facilitate the identification of species by scientists of different nationalities, and this is almost wholly based on Latin. This makes a knowledge of Latin desirable, not merely for the expert, let me say, but for all who take any interest whatever in the study of birds, plants, insects or any phase of natural history. Even florists find it helpful.

I believe that this reason alone is sufficient to justify the place Latin holds in education.

3. The study of Latin is a great help to the comprehension of systematic grammar, and this, as a primary step in logic, is by no means unimportant to people whose language is so nearly grammarless as our own.

4. Greek and Roman mythology, geography, history, literature and art contribute extensively, as every one knows, to English literature and art, not alone by supplying themes for

song, story, or the artist's brush or chisel, but by supplying countless allusions and illustrations. Unless, therefore, one is familiar with Greek and Roman customs and antiquities, he lacks to a considerable extent the ability to appreciate a great deal of our own best literature.

It may be said that one may get all this information from books in the English language. He may, but will he, in a way to make it effective?

To be able to appreciate the point of an allusion or an illustration, one must be *very* familiar with the incident, or whatever it may be, to which it refers. Casual reading will not give to people who have not phenomenal memories this familiarity; it can come only from study and repetition. The discontinuance of Bible study is making scriptural allusions meaningless to many young people of today. To illustrate, the following passage from Longfellow's "Evangeline" was read to a company of people of different ages:—

And as she gazed from the window, she saw serenely the moon pass
Forth from the folds of a cloud, and one star follow her footsteps
As out of Abraham's tent young Ishmael followed with Hagar.

All the older persons present, but only a few of the younger, recalled the Bible incident alluded to in the last line, well enough to see its point, but after an explanation the others remembered that they had "read it" or "heard of it" before.

To those who have studied Latin for three or four years with any reasonable degree of interest, the beautiful mythology of Greece and Rome, compared with which most other folk lore is insignificant, becomes thoroughly familiar. So, too, the leading events of Greek and Roman history and much of that of other contemporary peoples. It is to this familiarity, it seems to me, that the cultural effects of Latin are mainly due.

5. The possibilities of the study of Latin in the way of mental discipline must not be overlooked. I have especially in mind that power of self-control which we call mental concentration and application. In common with all subjects rightly taught, Latin cultivates this power, but to a greater degree, it seems to me, than any other, unless it may be mathematics. In most other

subjects something can be done with the mind dawdling, but not so to any great extent in Latin. To get much out of this study the concentrated effort of the mind must be persistently applied. It is this or next to nothing.

6. The superior opportunity that the study of Latin furnishes for training in English, has been frequently pointed out by those who have argued for the right of Latin to a place in the high school course of studies. It seems to me the point is well taken, and that the opportunity is one that can hardly be overestimated.

Training of this kind may be obtained from the study of a modern language also, but not to the same degree. The sentence form and the words in French, for example, resemble the English too much and suggest the form and language of the translation; hence the pupil is not compelled to think and select and arrange as he is when trying to make a good English translation from Latin. The same is true of German, though not, perhaps, to the same extent. The grammar and arrangement — the whole genius of Latin, in fact, is so different from English that the pupil is forced to original effort, if he translates it well. In other words, the Latin gives him the thought, but not the language. A comparison of almost any passage of French or German with a passage of Latin will, I think, convince any one of the truth of this.

But if any further proof is necessary, let us consider the matter of arrangement. In Latin, the meaning — that is, the *exact* meaning — is affected by the arrangement of the words in the sentence. "*Delenda est Carthago*" expresses a sentiment quite different from *Carthago est delenda*; "*Nescit vox missa reverti*," from *Vox missa reverti nescit*; and "*Habetis, milites, quam petistis facultatem*," from *Quam facultatem petistis, milites, habetis*. To put these into English that will convey the exact thought of the Latin, requires study and gives a training that makes for skill in the use of language. The student, in the effort to express the thought correctly, must often select English words that are not given among the dictionary definitions of the Latin words to be translated, and he must even supply additional words, if necessary to give the emphasis that is involved in the position of the Latin word. To illustrate by the last two sen-

tences quoted above: "A remark made in public can NEVER be recalled; "You now HAVE, soldiers, the very *opportunity* that you have been seeking."

What an opportunity this is for training in English! If it were realized and utilized, there would be no need of so much special instruction in English as is now given, especially for pupils who take Latin.

That the majority of pupils, four out of five, I will say, can be educated up to such effort as has been suggested, I not only believe, but I know. The steps to it are plain, and each is highly educational in itself. The first is to lead the pupils to a full and clear comprehension of the meaning of the Latin, and the second is to keep them trying to express that meaning fully and accurately in English. It is not to be expected that perfection will be attained from the very start, but this training will avail in the end, if the pupils can be kept striving to do their best.

7. For, in a way, the same reason that underlies the contention in the preceding section, namely, the difference in construction and idiom between Latin and English, I believe it can be shown that there is at least a strong presumption in favor of the superiority of the former over either French or German, as a study making for brain development.

In the acquisition of one's mother tongue, in our case English, it establishes for itself in the brain certain centers and paths, so to speak, of activity; not entirely different ones, though, for every slight difference of idiom. Instead, expressions similar in form seem to fit themselves into the same channels and to occupy them in common, as is shown by the mannerisms of speech which every one acquires. In this same way, it seems to me, a new language, in proportion as it resembles the mother tongue, thrusts itself into the established centers and paths instead of making new ones. This would be truer of French than of German, but far truer of either of these languages than of Latin. This, differing so much as it does from the English, must to a large extent form new centers and break new paths for itself, thus enlarging the brain area given to language, rather than overloading the old one. This accounts for the greater difficulty in mastering it, — a greater

difficulty, it is true, but yielding a greater return. The arm that swings a sledge will acquire a stronger muscle than the one that only handles a yardstick, and there is every probability that a similar law is operative in respect to the brain. Of course it is not claimed that the study of Latin creates brain, but only that it develops it.

I believe, though I do not claim it to be fully demonstrated, that the brain development to be gotten from the study of a language other than our own, is in proportion to the difference between the two.

If these reasons for Latin as a high school study are sound, some of them carry with them suggestions as to how it should be taught and studied; for it does not follow that any treatment of the subject will secure the specified results. To illustrate, I have credited Latin with a high potentiality as a means of cultivating mental concentration, but I regret to say that I have seen Latin classes in which the pupils were getting less of this training than they could have gotten from playing jackstraws. Indeed, I believe that typewriting is doing more to cultivate mental concentration than Latin is, as taught in some of our high schools.

It remains to show in part what the prevailing practice in teaching Latin is, that one may judge whether or not it is yielding the results which entitle it to a place in the high school course of studies.

Let me say, first, that much more attention is given now than formerly to the English of the translation, by nearly all Latin teachers, and it is a cheering sign. Æneas no longer with impunity chides his mother for "snatching him through weapons and through fires," although in Cæsar there are people who still "respond to these *things*."

A criticism that may be made in the case of some teachers is, that they are too hasty in suggesting the better word or expression before the pupils have a chance to try, or before they understand the meaning of the Latin well enough to judge what the best English to express it would be.

As to the first and second reasons given above for the study of Latin, namely, that it has contributed so largely to our English vocabulary, and that it furnishes the international nomenclature

for certain sciences, little need be said. These advantages come as a natural consequence, and usually are of service at a period later than school life. They need not be considered as affecting methods of instruction, except, perhaps, in one respect, — the way in which the use of Latin in scientific nomenclature is affected by the Roman method of pronunciation. Usage requires that this nomenclature should be pronounced by the English method, and the same is true of all Latin and Greek proper names when they occur in an English translation or in any connection with English speech. This makes it necessary to learn two pronunciations of Latin, and these are not carried along together without some confusion. There are few, probably, who in a historical discussion, for example, would pronounce the *c*'s in Cicero or Cæsar like *k*, the *i* like long English *e*, etc.; but it is not unusual to hear such mistakes made with names like Lucius, Decius, Marius, etc., and with scientific names of birds, as *vireo olivaceus*, and of plants, as *viola sagittata* and *iris virginica*.

It may be further said of the Roman method of pronouncing Latin, that as compared with the English method, it makes progress in the beginning more slow; that it requires much time devoted to learning the quantities of vowels and syllables, that does not seem to aid in mastering the language as a vehicle of thought; and that pupils rarely acquire it accurately or so that they can read Latin easily. As an apparent consequence, the reading of Latin, especially of Virgil, is almost a lost art. There may be some, who read what I say about this, who will recall how Virgil classes, almost the first thing, used to learn to read the *Æneid* in a way to express the swing and flow of the rhythm; what a pleasure they took in this, and how it aided them to understand the poem. One rarely finds anything like this now. The reader generally trips on the pronunciation, loses the rhythm and makes the Latin sound like anything but poetry.

It may, I think, be doubted whether the intellectual and cultural values derived from pronouncing *c* like *k*, *v* like *w*, long *a* like *a* in father, etc., offset the disadvantages; but any further discussion of the matter would be useless.

As to the claim (3) that the study of Latin aids the comprehension of grammar in general and English grammar in

particular, nothing further need be said. This is also a matter that will take care of itself with any reasonably efficient method of instruction.

The same is true of the acquisition of a familiarity with Greek and Roman mythology, history, geography, etc., as a key to some of our own best literature. No pupil can read the usual portions of Cæsar, Cicero and Virgil with any satisfactory degree of understanding and interest, without acquiring all this.

The other benefits that I have claimed for the study of Latin, depend for fruition entirely upon the treatment of the subject. They are (5) the faculty of mental concentration, (6) training in English and (7) brain development.

In discussing the prevailing work of Latin classes with a view to considering whether it is efficacious to produce the desired results, let me make it plain, once for all, that what I shall have to say in regard to it does not apply to every Latin class in Massachusetts high schools, — to not more, perhaps, than five out of six. There is still enough good work in Latin, in schools here and there, to show that the poor work is needless.

Almost the first thing noticeable in a class of beginners (to pass over the defects of pronunciation) is the pupils' lack of comprehension of the meaning of the rules and definitions that they are learning, — if one can call it "learning." I have heard pupils reciting rules for "time when" "means and instrument," etc., — rules that they had been on for weeks, and had been coaxed again and again to repeat, and yet, when asked to give illustrations of them, they looked as if they were amazed that they should be expected to do such a thing. Even when asked to illustrate the construction mentioned in the rule, by an English sentence, the result was usually much the same. At best, not more than one out of five could do it.

It seems to me that this is mainly the teacher's fault. All teachers know that pupils can learn rules and definitions without taking in their meanings (although it is the most difficult way to learn them). They know, too, that the best way to remedy this is to require the pupils to supplement the rules with oral illustrative examples; they know that this would be a good drill in word forms, grammar and pronunciation; and yet they neglect to do it, and the results are as I have described,

with a loss, of course, of the good to be derived from the study.

I believe that with every rule and definition an illustration, given orally, should be required. For this purpose two or three models might be memorized, but the pupils should be encouraged to give original illustrations as often as possible. This is not difficult, as I personally know from experience, if insisted upon from the start.

Another thing that impresses an observer of first-year instruction in Latin is, that although much time in the aggregate — nearly the whole recitation, in fact — is given to “drill,” the individual pupil gets but little. It is a cardinal principle of drill work that it should be so conducted that each pupil will get the maximum amount of practice in the minimum amount of time; but in first-year Latin this seems generally to be reversed.

To illustrate: for the first three or four months a large part of each recitation is spent on paradigms. The usual, in fact, the almost universal, usage is to give some noun or a tense of some verb, or whatever it may be, to each pupil, to be written on the blackboard. If the class is small, each pupil may have two or three. The quantity of every long syllable is to be marked. When all have finished and are seated, the teacher proceeds to read and correct the work, while the pupils sit passive and often indifferent. Those who have not had interest enough to learn the paradigms correctly at first do not have interest enough to pay much attention to the correcting. Some teachers attempt a little oral drill in connection with the translation of the Latin sentences in the lesson, but there is not much time for it, as it takes so long to get through with the “prepared” translation. This, — four or five minutes for each pupil in a recitation of forty minutes, — repeated four or five times a week, is everything in the way of drill, and this can hardly be called drill. A good many teachers do not seem to realize what drill is, and how much of it is necessary in learning a language.

As the year goes on, the paradigms give place to sentences. The pupils are supposed to have translated into Latin some English sentences in the text-book, and each pupil generally brings into recitation the Latin renderings, written on a sheet of paper.

There are suspicions that these are not always the products of original effort; but, be this as it may, each pupil *copies* one of these on the board. His Latin usually abounds in errors, — errors that have been made and corrected again and again, — and the teacher goes around and makes corrections as before.

If, instead of writing everything, more use was made of oral drill, the pupils could be given ten or twelve times the practice in composition and grammar, and at the same time be getting a training of the ear and facility in pronunciation.

I venture to suggest a way to do this, which I know from personal experience will produce good results; but any teacher who will take the problem in hand, will find, I am sure, other ways just as effective.

The English sentences to be turned into Latin, that are found in every good book for beginners, should be assigned for written work, as part of the pupils' preparation for the lesson following the one in which they occur. In the recitation let these first be disposed of by some time-saving device requiring not more than five or six minutes. If it takes longer than this, it should be regarded as an indication that the previous drill had not been efficient. Next in order call for whatever else has been assigned for preparation, disposing of it in the shortest time possible. Then, in connection with the translation of the Latin sentences given in the text-book, the drill should begin. Some of these sentences should be selected as models, and after one of them has been read and translated and attention called briefly to points of construction, let English sentences involving the same principles, be given to the class, to be turned orally into Latin. These should not be too difficult and their number should depend on circumstances. They should be made by the teacher on the moment and be new to the pupils.

Suppose, for example, the model is *Iuna dominæ viam monstrat*. Then the sentences to be turned into Latin may be such as: We show the strangers the road; The woman shows the roses to the girls; You (one) are showing the sailors the boat (*scapha*); I am pointing out the stars to the girls; The sailor is pointing out to us (*nobis*) the island, etc.

As each of these is given, addressed of course to the whole class, allow a moment or two, but not too long, for thought. Call

on some one, beginning usually with those most likely to make mistakes, to give it in Latin. If he gives it wrong, do not stop to correct, but simply remarking, "I noticed an error," call up another pupil, who must try in his rendering to make the correction. If he succeeds, that ends it, but if he doesn't, the teacher should merely say, "You made a mistake," or "You corrected Mary's mistakes, but made others;" or, better, ask "How many noticed mistakes?" and call upon a third pupil to try. Thus continue till the Latin is given correctly, or till every pupil has had a try. In the latter case, which will rarely happen, the teacher may give the correct rendering, and then promptly start another sentence.

This drill should provide for any special difficulties the pupils are likely to meet in writing the Latin to be assigned for the following day.

Teachers who have tried some such plan as this, have always reported good results. Most teachers, however, find it very difficult to deviate in the least from the text-book. They fail to understand that the very best text-book needs originality and resourcefulness on their part, to give it vitality. It should be added that whatever the plan of the drill may be, it should keep *all* the pupils active *all* the time.

But there is another defect in the prevailing paradigm work, whether oral or written, that seems to me more to be deprecated than even the scantiness of the drill. It will be found, I think, that pupils while reciting or writing paradigms, rarely associate with the forms, as they give them, any definite meaning, to say nothing of their *exact* meaning. For example, they have probably a general notion that *regere* means "to rule," but in giving, say, the imperfect of it, they have no distinct feeling of the act as going on in the past, or of the exact significance of the personal endings; hence they do not distinctly sense the difference between tenses. I believe that it is mainly for this reason that later, in translating or composing Latin, they are constantly confusing tenses and cases. In one instance, in turning into Latin an English sentence calling for the future of the verb *ducere*, only one pupil out of nine got the tense right. The others used the present and imperfect, and most of them the perfect on which they had just been drilling. In classes in

Cicero and Virgil one is continually hearing passages spoiled in translation because the pupils fail to appreciate tenses. In regard to cases of nouns and pronouns it is very much the same.

The defect would be more excusable were it not so easily corrected with most pupils, — with all, in fact, who ought to be studying Latin. The remedial device is very simple. In drilling on a tense, the emphasis should be placed on the separate persons, and the drill should be so conducted that with every form a pupil gives, its exact meaning will be closely associated.

Suppose, for example, the class is learning the present tense of the first conjugation. Instead of the paradigm it is better to have little sentences like the following arranged in groups of five or six, and written on the board or on drill charts for the pupils to turn into Latin: —

I sing, we sing, the girl sings, the girls sing, he sings, you (addressed to one pupil) sing, you (addressed to all the class) sing.

We praise the sailor, you (one) praise the sailor. He praises the sailor, you (all) praise the sailor. They praise the sailors. The boys praise the sailors.

The girl loves the doves. We love the doves. You (all) love the doves, you (one) love the doves, etc.

Repeat the sentences, rather than vary them too frequently. The drill should be brisk. The essential thing is to keep form and meaning closely associated.

Later, the paradigms will be found convenient as a way to systematize the verb forms for *some* purposes, and they will then be easily learned; but good teachers have again and again called attention to the unsatisfactory results of paradigm drill at the start. There is nothing, either cultural or intellectually nutritive, in burdening the memory with abstract Latin forms.

In what I have here said about drill on Latin forms, I may add that I have the support of good Latin teachers everywhere; but in calling attention to what seems to me one other defect in first-year Latin instruction, I regret to say that I cannot claim this support. I shall, however, venture to state the defect, as it seems to me to be a grave one, and those who have the patience to read what I say, can judge for themselves whether my criticism is well founded.

In a Latin sentence, as I have already stated, the position and the order of the words are matters of the greatest importance as affecting the thought. Any one who has not come to feel, in reading Latin, the effect of the word order, will scarcely be able to understand what he is reading, save in the rough. It is by the arrangement of the words that the language expresses the fine shadings of the thought, that are the essentials of all good literature.

Without going into a detailed presentation of the principles of Latin arrangement, I wish to mention two of the most conspicuous, in order to show how they affect the meaning.

The place for the most important or the most emphatic word or phrase is at or near the beginning of the sentence, and of the next to this, at the end. Of two words closely connected, — as an adjective modifying a noun, — the most important is placed first, and the meanings of the two different arrangements are very different. For example, *pulchri flores* means *pretty* flowers, as distinguished from implied homely ones; *flores pulchri* would sometimes mean *pretty flowers*, as distinguished from other pretty things, but generally this arrangement would reduce *pulchri* to a mere complimentary or generally recognized attribute of all flowers. Thus the Latins never said *immortales dei*, but *dei immortales*; for, while the latter is complimentary and reverential, the former would imply the shocking thought that there were gods not immortal.

The following sentence, from Cicero's first Tusculan Disputation, admirably shows the effect of arrangement on expression: —

Arbores seret diligens agricola quarum aspiciet baccam ipse numquam.

First observe the arrangement of the words in the phrase *diligens agricola*, indicating that it is the *industrious*, the *work-loving* farmer that will do this, and not the slothful or lazy one. If *diligens* followed *agricola* it would sink into a mere general compliment, and *agricola diligens* would imply that farmers are all industrious and would all do this, but that people of other occupations would not, — a change that would turn the beautiful thought of the sentence into nonsense.

Observe next that *arbores seret* begins the sentence, and that the adverb *numquam* occupies an emphatic place at the end. This so emphasizes *arbores* that in the translation a re-enforcing English word must be supplied to fully express the thought. To appreciate this, let me say that it would not be strange for any farmer to plant annuals, such as beans, cucumbers, etc., for he might reasonably expect to live to gather the fruits thereof; but in this sentence we are told that “An *industrious* farmer will plant *even trees* of which he *himself* will *never* see the fruit.”

Interpret by the same principles the following passage from Cicero's *De Senectute*, and, with a view to culture, to mental discipline, to ability to appreciate thought and to training in English, say whether or not this feature of the study of Latin ought entirely to give place to the mere mechanics of the language: —

Optissima omnino sunt, Scipio et Læli, arma senectutis artes exercitationesque virtutum.

I have said “entirely to give place” because about the only directions as to the arrangement of a Latin sentence that I ever hear teachers give their pupils is to “place the subject first and the verb last,” — a direction that is not supported by classical usage. It has become, however, a common practice of teachers to allow Latin sentences to be arranged in the English order, as in the following case: “The songs of birds were heard among the oaks” was written *Cantus avium erant auditus intus quercos*. *Quercos* was corrected to *quercus*, and *auditus* to *auditi*, but nothing was said about the arrangement, or whether *erant auditi* was the tense that the sense of the passage called for.

All this illustrates one thing that impresses itself upon one who studies the prevailing method (I am speaking, remember, of about five schools out of six) of teaching Latin: it is that a method of treating Latin that requires attention to exactness of thought is pretty sure to be set aside for a method more mechanical. I realize that this is a hard thing to say, but if it is true, it is time it was said.

In talking with teachers about this neglect of what constitutes

a vital feature of the language, I have been met with the statement that some one who presumed to speak on teaching Latin at some teachers' meeting or some summer school has advised the ignoring of sentence arrangement the first year. It was probably some one who had never tried it with beginners, but had assumed that this is a matter too difficult for them to grasp.

Speaking from the experience of fifteen or more years in teaching Latin to beginners, I can say what any teacher can confirm, who will give it a fair trial, — that there is nothing in Latin that pupils will grasp so readily as the significance of word order. But attention must be given to it from the very first lesson, when the pupil is asked to put his first Latin words together, if they are not more than two. This, followed up with the necessary suggestions and plenty of practice drill as each principle arises, is all that is needed. But it must be begun the *first* year, for with a year's training in bad habits of writing Latin, and with the greater complexity of the sentences with which they will have to do later, the pupils will find it far more difficult to sense the idea, and probably never will. If this is done the first year, the more intelligent work that they will be able to do in the years that follow, especially in reading Cicero, will be very noticeable.

The sentence drill of which I have previously spoken, furnishes an excellent opportunity for training pupils to feel the effects of word order. The teacher will frequently repeat an English sentence that the pupils had already turned into Latin, with a change of expression or emphasis, and require the pupils to meet it with the necessary rearrangement of their Latin.

Beginners in Latin should at the end of twenty to twenty-five weeks be able to reproduce from an English translation, given orally by the teacher, short Latin stories such as are to be found in the old Andrews or Gildersleeve Latin readers. And where they have been properly trained, I have known cases where nearly all the pupils, taking their cue from the expression of the teacher as he told the story, have reproduced it in essentially the original order, although they had never seen the original Latin. Of course they had been trained.

Of the Latin of the three following years (in five schools out of six), if one says anything, it must be that present conditions are very unsatisfactory. In what ratio the difficulty of the subject, the indifference of the pupils and the methods of the teacher should share responsibility for this, it would be hard to say, for it would be hard to say how far the last is responsible for the other two. There is no question, however, but that the pupil is responsible for a considerable part of the poor results. He often seems to have no vitalizing purpose, is averse to serious effort, and doesn't care, provided he is allowed to slide along. One boy in my hearing frankly expressed it. He was fitting for college, but had come to the teacher to protest against learning something that he had heard was not necessary. The teacher, on the other hand, considered it valuable. In the course of the discussion the young man remarked that he didn't "want to learn any more of the stuff than he had to."

Wherever the fault may be, an observer cannot but see that there is a wide difference between what the pupils are getting in the way of knowledge, mental discipline and culture, and what I have tried to show the study is capable of giving.

There are, let me say, exceptions to this. There are some pupils in almost every class, I should say an average of three out of ten, who are making praiseworthy efforts and are undoubtedly getting good out of the study, but they are badly handicapped by the other seven.

In the recitation, the reading of the Latin is decidedly rough. The reader stumbles and mispronounces. It is rare that one hears proper phrasing or expression. Indeed it is evident that the pupils are associating no meaning with the words they are uttering, — just as when they are reciting paradigms.

But if the reading of the Latin is bad, the translation of it is usually worse. Few pupils have very high ideas as to what it means to prepare a lesson, and their work of the first year seems to have given them little power. There usually seems to have been some effort on the part of the pupils to get the lesson, but apparently, when they meet something a little difficult (often near the beginning), instead of striving

for the exquisite satisfaction of overcoming it themselves, they seem to choose the less strenuous way of leaving it for the teacher to explain. This, of course, breaks the continuity of the thought, and causes more difficulties that are disposed of in the same way.

When it comes to recitation, the chances are that before the pupil has proceeded five words he is in a tangle. Just as likely as not he has taken a noun in the ablative or the genitive for the subject of a finite verb. Then a dialogue takes place between the teacher and him, something like this: "What case is so-and-so?" "The dative?" "No, it's the ablative." "Oh, yes." "Well, the ablative can't be the subject of a verb. What case is the subject of a verb?" "The nominative?" "Yes; see if you can find a nominative."

After some search the "nominative" is found. Then the teacher, in a hurry to get on, puts two or three words together for him and gets him started again, but a few words further on he will again go astray, and again in a similar way the teacher will get him back. And so the recitation goes on. Sometimes when I have asked the teacher if she was trying sight reading, I have gotten the answer that it was a "review of the preceding day's lesson." These, to be sure, are extreme cases, but in most of the five schools out of six of which I am speaking the difference is mainly one of degree.

The most disheartening thing about it all is that this has come apparently to be regarded by pupils as all that is expected, and by teachers as all that is possible.

Of the impressions that one gets from listening to Latin recitations, two or three deserve mention:—

First, the pupils do not seem to know how to study or else are disinclined to effort.

Second, they do not grasp clearly the meaning of what they are translating,—that is, they do not visualize it,—and so lose the connection. One striking illustration of this occurred with a class that was trying to translate the thirty-sixth chapter of the first book of Cæsar, beginning *Ad hæc Ariovistus respondit*. They were having difficulties which seemed to me needless, if they kept in mind what *hæc* referred to. On in-

quiry, it was discovered that not a pupil in the class could tell, although they had just finished a review reading of the preceding chapter, in which the demands of Cæsar were distinctly stated.

Third, the pupils have not been trained properly to put into English peculiar Latin idioms. Take, for example, Cicero's *Si quid est in me ingeni*. When this idiom first occurs, or in anticipation of its occurring, if it were brought into relation with the so-called dative of possession, and if it were pointed out to the pupils that when the thing possessed is a personal characteristic, in with the ablative was generally preferred, and that Cicero's thought was merely that expressed in English by the words "If I have any ability," and then if all this were clinched with proper drill, I do not believe pupils would translate that passage, *Jam vero quae tanta in ullo homine juventutis illecebra fuit, quanta in illo*, In *Catilinam*, iv, 4, thus: "Now in truth what so great enticement of youth was ever in any man as in that one," as one usually hears it translated.

Lastly, the pupils seem to think that each Latin word has an exact equivalent in English, by which it can always be translated. This is a notion that can easily be corrected if teachers take a little pains; and it must be corrected, if any skill in translation is ever to be acquired.

I have dwelt long, too long, perhaps, on the subject of Latin, but it is because I believe in Latin, when well taught, as a training for those who are able and willing to work to acquire it. I should deeply regret to see Latin lose its eminence as a means of liberal culture. If it ever does, the blame will rest solely with the teachers of Latin. Unless these arouse themselves, shake off their mechanical methods and put vitality into their instruction, Latin will not be long behind Greek in disappearing from the high school.

Of the condition of the instruction in modern languages I am glad to be able to speak in more complimentary terms. It seems to me that there is no department in the high school that sees so clearly the ends at which it should aim, and the methods by which to attain those ends, unless it is the commercial department, which is not included in this discussion.

In general, the teachers of modern languages are assertive, aspiring, conscious of their work and unsceptical as to its high educational value, — a little, perhaps, like the tanners who argued that there was nothing like leather for fortifying a city, but I do not like them the less for this. It is a stimulating spirit, and, as a result, I believe that the ratio of modern language teachers who are getting satisfactory results, is three or four times that in either the classical or the English departments. At the same time, it seems to me that this department suffers more than almost any one of the others from the weakness of college training, of which I have already spoken, for the rapidly growing demand for modern language teachers can be met to only a limited extent by those who have any advanced training other than what the college gives them. I shall say no more on this point, however, lest the impression might be given that I do not have a high opinion of the value of college work.

The department, on the other hand, is fortunate in its live, aggressive Association of Modern Language Teachers, that, with its two or three general meetings and several section meetings in the State each year, exercises a stimulative effect on the instruction everywhere. All départements of high school work have similar associations, but in my opinion there is no one of the others whose influence is so plainly apparent in the classroom.

The most frequent defects that one sees in modern language instruction are: a faulty or even slovenly pronunciation; too little drill in oral composition; too much of the abstract paradigm drill, of which I have spoken in connection with Latin; and the usual carelessness about the English of translations. It is true that translations from French or German are never so conspicuously bad as they are from Latin, but for this very reason they may be more harmful. For example, it is more dangerous to a pupil's English to let him use "thankful" where the meaning calls for "grateful," than to use "old" where the meaning calls for "ancient." He will probably be sure to be cured of the latter mistake some time, but the former may become a habit.

English. — We seem to be nearing a change in the treatment of English and literature. The dissatisfaction over methods and results in these subjects, not only among teachers, but among all intelligent people of literary taste and judgment, has become so general and intense that it cannot be ignored much longer. Present usage has hardly a defender, while those who assert that it is doing harm, are numerous.

The New England Association of English Teachers was organized in 1901, and has held ever since two meetings, I think, a year. These meetings have been excellent. Listening to the sensible and able reports and papers read at them, one would be led to expect an immediate abandonment of the mistreatment of English and literature; but till within a year or two he would have searched in the schools in vain for evidence that the views expressed had exerted the slightest influence on teaching. This, however, can no longer be said. I have already seen in high schools some marked effects of the meeting in Springfield last November.

At that and other late meetings of the Association two things were emphasized that are fundamental to any improvement in the treatment of English, — the complete separation of composition work from literature and the necessity of teaching English in connection with every subject in the high school.

These views are not new. Individuals have urged them again and again, but their voices have not been heard as against the influence of the college requirements in English. I believe, however, that the voice of the Association and of other educational bodies will be heard, and that a change is coming that will practically give teachers of English a free hand so far as methods are concerned, and at the same time will put upon them full responsibility for results. This is as it should be; will they be equal to it?

The importance of teaching English in connection with all subjects in the high school, including itself, cannot be overestimated. The place — I am tempted to say the *only* place — to learn language is in connection with the acquisition of knowledge. What better opportunity can there be to acquire correctly the technical language of history or science or art, for

example, than in studying those subjects? What an opportunity the study of geometry furnishes for training in accuracy, clearness and terseness of speech!

But teachers will say that if they stop to correct errors of language they cannot get over the required ground. For one, I do not assent to this. I think it is just the other way. The "required ground" means more than a certain number of pages. It means a clear comprehension of the information recorded therein, and correct language aids in acquiring this. Indeed, correct language and clearness of thought mutually help each other, and make for greater progress in the end. I fear that the same disposition to hurry that prevents taking time to use correct language, also prevents taking time to get efficient comprehension of the thought, and that these two defects explain, to a great extent, the slow progress.

But, let me say, it is not necessary in a recitation to pick up every slip of the pupils. Begin with the most objectionable and most common errors, and as these are corrected, work on others; chief of all, keep pupils aware that there is such an offence as incorrect language, and striving to avoid it. This is, after all, the main thing.

Granting, then, that the practice of having high school pupils write essays on English masterpieces of literature or, worse still, try to reproduce them, is to cease, what should take its place?

Is it not true that not more than one out of twenty or thirty high school pupils will ever, after completing their schooling, write anything except letters or an occasional examination paper? Does not this indicate the field to which high school efforts in English composition should be pretty nearly confined? Letter writing gives opportunity for training in all the mechanical details of composition and is of itself a high art. Besides, it is safer than presumptuous essay or story writing.

Do we realize the danger in having most high school pupils try to write essays and stories, unless they are instructed by a teacher who is an able and severe literary critic?

I had an opportunity not long ago to look over some stories written by third-year high school pupils. The sentence, "A

number of boys were running towards a pond," had been given as a suggestion around which the stories must be constructed. Each pupil had selected his own subject, some of which were: "A Boy Drowned;" "The New Boat;" "How a Boy Caught a Trout." The stories all contained a number of incidents, apparently for the purpose of filling space, for many of them had no connection with anything that preceded or followed. For example, in the story, "How a Boy Caught a Trout," one of the incidents was this: "A man with his wife and two daughters was riding by in a carriage. His wife said, 'I wonder what those boys are running for?' The man said, 'I do not know. I hope nothing has happened.'"

This incident, like many others in the stories, had not the slightest connection with anything else. It would not have affected anything else in the story in the slightest if the man had not ridden by in a carriage, or if the girls had not been his daughters. Moreover, the narrative made no mention whatever of *how* the boy caught the trout, but chiefly told how people came to see it.

It is suggestive that these stories were written in connection with rhetoric, which the class was studying, and the topic at the time was unity. Furthermore, the teacher praised the stories, especially the long ones, highly, thus encouraging one of the worst faults of late in literature. This is not an isolated case.

It seems to me that if proper emphasis were laid on oral as well as written English, in connection with all the work of the school, half of the time now given to special instruction in English composition would suffice for all attainable ends, and time would be saved for the acquisition of valuable knowledge that would have a tendency to make the pupils feel the need of language.

The separation of composition and literature will furnish a golden opportunity to make the latter serve the educational purpose for which it is adapted. Will teachers rise to it?

It has been usual in the past to blame the questions in the papers set by the colleges for examinations in English for all the bad usage in the treatment of literature. I fear, however, if the truth were told, that the worst charge that can be urged

against those questions is that they helped a mechanical tendency, to which teachers themselves were too strongly inclined.

The colleges can easily make amends for all the harm they have done, if they *will teach* such of their students as intend to become teachers how to *read literature appreciatively*. This, I fear, they are not now doing.

I have seen college notebooks filled with memoranda of college instruction in literature. There was information as to the sources of Shakespeare's plots, their history, changes that he made in them, when the plays were written, and many other curious things, all interesting to, let us say, literary critics and specialists, but the student might have learned all this, and still not be able to read "Macbeth" or "King Lear" understandingly.

By "understandingly" or "appreciatively" I mean the ability to read that Prof. Henry Van Dyke had in mind when, speaking at a meeting of the New England Association of Teachers of English, two years ago, he used some such words as these: "One who has really learned how to read can see more in reading Shakespeare to himself than any theatre in the country can represent."

This power to read and see, not only material things mentioned, but the play of feelings and passions, the moral trend, the artistic relations, and, through all, the flow of the author's purpose, is what the pupils ought to acquire before leaving the high school; but they are not getting it, are not trained for it, and students in college seem not to be getting it. This will be evident, I think, if we take a glance at one or two of the ways of treating literature that one finds in our high schools.

One of these is to have pupils memorize the incidents of the story or drama, or whatever it may be they are studying, as they would learn, say, a history lesson; then, after one or two recitations on them, they are all written out in themes, in which "Julius Cæsar," "The Princess," or whatever it may be, appears as a bare schedule of happenings. It goes without saying that the teacher who treats literature in this way has himself no appreciation of its true function, and therefore cannot lead pupils to appreciate it. One illustration of this will suffice. Pupils who had read, recited and written out "Silas Marner" from beginning to end, sat as if dumbfounded at such ques-

tions as these: Why did the author create her hero out of a poor weaver, when she could have taken him from any station in life she chose? Why did she have him accused of stealing church funds, and unable to prove his innocence? Why did she create the Cass family as she did? That is, she could have represented the brothers as upright and honorable, or else the family as low and ignorant, — why did she not? Would it not have served as well her purposes? What are some of her purposes? etc. To such points as these the attention of the pupils had never once been called. It was a travesty on teaching literature.

A second device is to read, paragraph by paragraph, the piece that is being studied, and to select a "topic sentence" for each. This is a popular device for treating the "Spectator Papers," Macaulay's essays and Burke's "Speech on the Conciliation of the Colonies." It is so obviously absurd that it merits no further notice.

A third device is to use a masterpiece of literature as a place to find words to be looked up in the dictionary. This is the most innocent device of all, for the only harm it does is to waste time.

I repeat, therefore, that the college can do no greater service to the high school than to teach its students who are to become teachers what literature really is, and how to present it to high school boys and girls.

Among the changes that may come, it is possible that the number of books for study and reading prescribed by the colleges may be greatly enlarged, or perhaps the door thrown wide open. In either case the question may be asked, will the present high standard of literature for high school work be maintained?

There are already books of a distinctly lower order being published for the high school market. There are even those who are advocating easy current literature as more "interesting to the pupils."

It is to be hoped that this movement will receive little encouragement. It seems to me that the high school should be in better business than teaching boys and girls to read stories that they are likely to read to excess, without any stimulation.

It would seem that there are certain obvious principles that should govern the selection of literature for high school use.

First, it should be pure literature of a high standard.

Second, it should include poetry, romance, dramas, essays and orations.

Third, it should be selected with a view to cultivating in the pupils a liking for a better literature than they would otherwise be likely to take to.

It will be observed that with some odd exceptions most of the books prescribed by the college during the past eighteen years or so, conform very well to these principles. If they have failed to accomplish the desired results, it is not the fault of the literature.

One of these books, over which there has been a good deal of lament, is Burke's "Speech on the Conciliation of the Colonies;" yet for the purpose it is easily among the best five selections in the whole list. The complaint has been that pupils could not be interested in it. This is almost wholly the fault of the method of treatment. This speech can be so treated that almost every pupil will become enthusiastic over it, — so enthusiastic, indeed, that after two lessons, if it were left to themselves, they would vote to continue the reading. This can't be done, however, by keeping them making topic sentences for each paragraph.

If I were to make a suggestion as to the general character of the literature to be read hereafter, it would be that the number of novels be reduced, and that the quantity of oratorical literature be increased. I would retain Burke's speech, and add to it four other orations selected from speeches delivered on matters connected with important periods in the history of our own country: such as Webster's "Reply to Mr. Hayne," Geo. William Curtis's "Speech on the Spoils System," and one from the period preceding the Civil War, and one from the reconstruction period.

Let me say, in closing, that in my opinion the one thing that is now needed in the work in English, above all else, is a complete change in the treatment of literature. I feel hopeful that it is coming.

Respectfully submitted,

J. W. MACDONALD.

APPENDIX C.

REPORT OF JULIUS E. WARREN,
AGENT OF THE BOARD.

INDUSTRIAL EDUCATION IN THE PUBLIC SCHOOLS.



REPORT.

To the Board of Education.

The routine work of the year has included the usual inspection of schools; talks at teachers' meetings; consultations with committees and superintendents; the settlement of many local difficulties; the direction of 12 institutes, attended by 1,706 teachers and friends of education from 101 towns; and the conduct of 3 conferences of superintendents. A new feature of the institute work was the holding of 5 meetings at which demonstration lessons were given in cooking, pruning and grafting fruit trees, forestry, dairying, the applications of chemistry and physics to agriculture, and the feasibility of teaching these subjects in high schools.

I have also delivered 66 addresses on educational topics at public meetings held under the auspices of school committees, granges and other organizations.

INDUSTRIAL EDUCATION IN THE PUBLIC SCHOOLS.

I wish, first, to call attention to some of the industrial work now being done in the public schools; second, to state briefly the reasons for extending and broadening the work; and third, to show the wisdom, almost the necessity, of some measure of State help for this kind of education.

The Work Accomplished.

Dressmaking, cooking and various forms of manual training are now taught in the most progressive cities and large towns. Commercial education is also provided for in many places. Some municipalities maintain excellent mechanic arts or technical high schools, and a few support evening trade schools which are benefiting those now employed in the trades.

Within the past year Chicopee and Fitchburg have started very interesting and promising experiments in industrial education.

The Chicopee high school in the morning session gives to

those who choose to take the industrial work special courses in mathematics, drawing, science, English, history, the study of materials used, processes of manufacture, transportation and the economic, civic and social questions involved in production. In the afternoon these pupils work in a well-equipped shop connected with the high school building. Provision has been made for the teaching of pattern making, wood working, molding and the machinist's trade. The girls have excellent courses in the domestic arts. All of the instruction is given by skilled mechanics or highly trained teachers.

Fitchburg has adopted a modified form of the Cincinnati University plan.

Those who elect the industrial courses take academic instruction in the high school especially adapted to the needs of the machinist's trade, and do their shop work in private machine, electrical or metal-working establishments, receiving from 10 to 12½ cents an hour for their labor. The school oversight is extended to the shop, and is there supplemented by the teaching of practical workmen employed in the industry. The class of 22 is divided into two sections, one devoting a whole week to study in the high school, while the other is employed in the shop. The school and shop work thus alternating are continually in close relation to one another. The shop experience is of the most practical and valuable nature, for the pupils work in real shops, under the actual conditions in which the trade is carried on. They do real work, and help to make articles which must be standard in quality and of commercial value. They have the use of the latest and best tools and machinery kept in perfect order. They have just the material suited to the task in which they are engaged. They are taught the most effective methods and processes. They are not allowed to waste time or material. All of these conditions must prevail in every successfully managed private establishment.

No school shop can change machinery as frequently as the successful manufacturer is obliged to do, or always supply the proper materials, or dispose of the product in open market, or in other ways offer as favorable opportunities for training as the private shop.

This plan costs Fitchburg nothing. No buildings, tools, ma-

chinery or materials are supplied by the city. The industrial teaching conducted in the regular school building is no more expensive than that provided for other courses of study.

The pay makes the student apprentices nearly or quite self-supporting, and will enable many boys to master a trade and at the same time continue their high school training who would otherwise be obliged to terminate their formal education at the grammar school period to work for merely nominal compensation.

This plan may easily be adapted to the industries of any community. Several may be taught in the same school. In this case each trade would be carefully analyzed, and the elements or principles common to several might be taught to large groups of students.

Both the Chicopee and Fitchburg systems may be extended to the pupils below the high school. These schools are unlike the German industrial schools, which are designed to train humble workers in a stratified order of society. They are American and democratic. They are free to all, and may be easily adapted to the needs of each pupil and each community. They are in perfect harmony with the general system of public instruction, and are intimately and closely connected with the work of the common schools. They are heartily endorsed by laborers, manufacturers and educators in their respective cities.

In the four-year courses given at Fitchburg, trades will be so well taught that the graduates will be among the most skilled and highly paid workers in the trades. Their influence will tend to raise the wage scale and improve the condition of the worker intellectually and socially. Organized labor has never had and never will have anything to fear from any form of education in the public schools.

A combination of the Chicopee and Fitchburg methods, if supplemented by evening trade schools, would meet city needs admirably. The school shop could be used for those who, while preparing for college or taking general courses of study, might still wish to acquire skill in the use of tools and machinery and a general knowledge of the processes of manufacture. The private shops could be utilized by those who wish to master and follow a trade.

The Petersham agricultural high school is a good type of school for rural conditions. It is not a high school turned into an agricultural school, but a high school whose courses have been sufficiently agriculturalized to meet the requirements of country life. In this school the care and management of the greenhouse, market gardening, fruit growing, forestry, the judging, care and breeding of farm animals, wood and metal working and domestic science are effectively taught, without interfering with the purely academic work of the school. The two go hand in hand; each helps the other.

The summer sessions of the Massachusetts Agricultural College for the training of public school teachers have given an impetus to the school garden movement and to the teaching of elementary agriculture throughout the State. Over 200 teachers have attended each session of the school. This branch of the college was opened at the earnest request of the executive officers of the Board of Education. It therefore gives me pleasure to testify to the high order of the instruction offered and to the service which the college is rendering the schools of the Commonwealth. This institution is now training young men for high school teaching, and is constantly broadening its sphere of usefulness. The college might well be developed into a State university, the culmination of our free public school system. With the splendid grounds, fine buildings and strong corps of instructors now available, comparatively slight additional expense would be necessary.

Some of the State normal schools are preparing their students for social service by teaching sewing, mending, cooking and gardening of the most practical sort. Instruction of this character is now being given in some of the rural schools.

Reasons for extending and broadening this Work in the Public Schools.

1. Industrial education is of vital importance to the welfare of the Commonwealth. The fact should not be overlooked, however, that with our present system of education a general intelligence, a power of initiative, a superiority of industrial organization and a division and specialization of labor, has been developed which has made the manufactures of our State fully

equal in excellence, variety, extent and value to those of a similar area, anywhere. Nor is it fair to attribute German pre-eminence in the manufacture of dyes, chemicals and certain other commodities to her trade schools. The credit really is due to the thorough scientific research conducted in her universities. It is none the less certain that the industrial efficiency of our people would be increased by the right kind of trade instruction. This instruction should aim to secure some degree of skill in the use and care of tools and machinery, respect for manual labor, a knowledge of material and the processes of manufacture, habits of mental and physical activity, and for those who so desire a complete mastery of a trade.

2. The work already accomplished at Petersham, Fitchburg, Chicopee and evening trade schools conclusively proves that industrial education can be successfully carried on in the public schools.

3. It is economy to use existing agencies wherever practicable. The public now owns \$50,000,000 worth of school buildings, much costly apparatus and valuable lands. Much of this property is available for industrial instruction. The present teaching force should also be utilized as far as possible.

4. The leadership of the public schools is already recognized. This is a valuable asset in advancing the cause of industrial education. The success of the schools in general education has earned the confidence of the public; because of this confidence, the people will follow the public school officials where other leadership is rejected. This is well, for on the whole no body of men in the State is better fitted to direct industrial teaching than the local authorities of the public school system. A few years ago, farmers, manufacturers and the general public would have ridiculed the idea of teaching agriculture or a trade in school. Even now, after ten years' agitation, the public are not clamoring for industrial education. It has been difficult for the most intelligent and progressive school men to secure the adoption of their plans for the improvement of popular instruction. In nearly every case the demand for change has come not from the public, but from far-seeing educators. The schools have led, not followed, public sentiment.

Among the leaders who for many years have advocated industrial education may be mentioned Secretary George H. Martin, Hon. Carroll D. Wright and Dr. Thomas M. Balliet. Dr. Balliet, as superintendent of Springfield schools, introduced cooking, sewing, manual training and commercial subjects, established the first and one of the best technical high schools in the country, and started an evening trade school which is a model of its kind.

5. The public schools are the only means by which industrial education can be given in nearly 300 towns in the Commonwealth. The towns are too small and too heavily taxed to do more than support their public schools. Many of them could not do this without State aid.

There are two towns now taxing themselves more than \$10, 7 more than \$8, 30 more than \$7, 91 more than \$6 and 178 more than \$5 per thousand of their assessed valuation for the support of their public schools. The burden of taxation cannot be materially increased in these towns.

The Need of State Help.

A law giving State aid for the support of approved courses in agriculture, mechanic and domestic arts, would greatly stimulate industrial education. Such a law would be in harmony with the settled policy of the State in helping the smaller towns in the development and support of their schools. Aid is now given to more than two-thirds of the towns of the State. In these towns industrial, especially agricultural, education is the need of the hour.

Intensive cultivation of the soil is the hope of New England. The average yield per acre in the State is only \$20; yet some skilful farmers, by feeding the soil liberally and raising two or three crops a year, are getting produce worth from \$200 to \$1,000 an acre. Massachusetts soil is waiting to make trained men rich. We need an education which will dignify agriculture, reveal its possibilities and train men for its successful pursuit.

A small allowance from the State would enable the towns to provide this education in the simplest and most effective manner. It would not force anything new into the schools; it

would not drive anything good out of them; it would be permissive only. It is not expected that every town would at once take advantage of the provisions of such a law. The cost to the State would not exceed \$25,000 a year for the next three years. A small sum would do much good in many towns. A group of small towns might employ a specialist to take charge of industrial courses. In some communities a skilled mechanic might devote a few hours a week to instruction in wood and metal working, or to any other line; in other towns a woman might be secured who would teach household arts in addition to the usual academic work, or a capable man might be found who would combine agricultural, mathematical and science teaching. The cost of these or other methods of carrying on the work would be divided between the State and the town.

The State aid would be of great service where public sentiment favors industrial education, and where the school committee, superintendent and teachers are in sympathy with the movement.

The schools giving courses in agriculture will naturally lead many students to the Massachusetts Agricultural College. The public schools will give elementary and exceedingly practical courses, while the college will deal with the more scientific aspects of agriculture, and at the same time give its students a good general education. This affords an opportunity for every child in the Commonwealth to obtain free of expense a broad, liberal and exceedingly practical education. If such a law is enacted, the Board of Education would be responsible for the effective and economical administration of the law.

Respectfully submitted,

JULIUS E. WARREN.

Dec. 31, 1908.

APPENDIX D.

REPORT OF FREDERIC L. BURNHAM,

AGENT OF THE BOARD

FOR THE

PROMOTION OF MANUAL ARTS.

SUPERVISION AND THE TEACHING OF THE MANUAL ARTS IN THE
HIGH SCHOOL.

REPORT.

To the State Board of Education.

I submit herewith my second report, which is the thirtieth annual report of the Agent for the Promotion of Manual Arts.

Number of cities and towns visited,	119
Number of all-day visits to Normal Schools,	21
Number of High, Grammar, Primary Schools visited,	292

for the inspection of work already done, criticism of actual teaching, and giving of model lessons.

Number of addresses at Normal Schools,	18
Number of addresses at institutes,	20
Number of addresses to teachers,	34

the 72 addresses suited to the specific problems of the individual cities, towns, schools, where they were given.

Inevitably such work demands thousands of miles of day and night travel throughout the State, endlessly repeated interruption of regular habits of daily mental and physical life, a mass of routine correspondence, and numberless individual calls for expert criticism and advice, either in carefully detailed letters or in personal interviews.

Naturally also it leads to calls for public and private addresses, conference, discussion, on educational problems, both within the State itself and in other States.

Thirty Saturdays have been given to the Massachusetts Normal Art School, for which a course of lectures on Supervision has been prepared and delivered to the Public School Class, in connection with five hours of teaching the first half year and three hours of teaching the second half year at each weekly session.

The specific subjects and their methods of presentation in each grade of the Public Schools have been given in detail.

In addition to the 159 already employed, the following 10 towns have elected a Supervisor of Drawing this year for the

first time: Becket, Chester, Middlefield, Washington, Holden, Oakham, Paxton, Rutland, Provincetown, Wellfleet, — making a total of more than 200 Supervisors for Manual Arts who may use the advice of the Agent of the State Board.

SUPERVISION, AND THE TEACHING OF THE MANUAL ARTS IN THE HIGH SCHOOL.

The supervision of the Manual Arts requires persons who have attractive personality, a thorough education for the specific purpose and the indispensable power to teach.

The supervisors of Massachusetts have been carefully selected from the available supply. Where the power to teach is evident in a supervisor, occasionally the education is not sufficient; and the reverse is just as true.

Some uncertainty necessarily enters into the choice of a supervisor. Until this year the Massachusetts Normal Art School has not been able to give its students the opportunity to teach frequently enough under a critic; therefore, principal and faculty have not been able to acquire that definite knowledge of the student in respect to his power to discipline and to teach which should characterize every recommendation. The use of the Perkins Primary and the Prince Grammar Schools of Boston has now been granted to the Massachusetts Normal Art School for practice teaching under a critic. Such work will greatly lessen uncertainty of recommendation, which should be perfectly frank and truthful. The personality, aptitude, education, executive ability, power to take the initiative, to discipline, and to teach, need to be known, if the choice of a supervisor is to be successful.

When a person has been elected to a position, it is no more than natural that he should look to the agent for general guidance and expect that such guidance will adhere to definite underlying principles.

Knowing the principles, it is his business then to lay a foundation for his work, that is, study the local conditions, acquaint himself with local industries, and the home life of the children. He must then plan, on his own initiative, a course of study that shall meet the requirements of the State law and of his city or town.

As well as foundation principles in Drawing, for instance, are known, it is inexcusable to say (as inevitably happens), "I have worked one, two or more years to overcome the wrong work of my predecessor." Rather always to say, "I am doing, not undoing," is the right point of view. A supervisor who presents the superintendent with another man's outline, published as a general suggestion for a course of study, and cannot explain satisfactorily his own high school outline of work is not fit for recommendation. Of course the subject seems vague to his teachers, and his presentation to the children is not clear, if for explanation of his position a supervisor has merely a few stock phrases.

The fact that too few supervisors have reasons which they have found by first-hand analysis is serious. One confessed lately that he did not know why he was pursuing certain lines of work and had never thought what it might be doing for the children. He could do it and he did not see why the children could not. Either there are very few supervisors so inefficient, or many are unconscious of their lack, perhaps, even, in some cases, are unwilling to recognize their deficiencies.

To take again our specific instance, — the supervisor of Drawing who must both plan work for teachers and also actually teach children, we realize how complex is his problem.

The child comes first, and no theory should be followed which has not been approved by experience; but work should not continue without experiment, because "the child" is an abstraction which does not exist, and each supervisor must deal with a concrete set of children, for whose personal development the whole plan must be worked out.

Too often this same supervisor lacks appreciation of the necessity for business methods in his work. There must be an economical and adequate supply of materials, and careful planning should determine the kind and quantity for each grade and high school. (Not many supervisors do this well.) He should know the cost and the comparative values of materials, and cooperate with superintendent and committees, who are responsible for spending public funds. He should realize the value of his own and other people's time, and the need of prompt response to official or responsible requests for information.

Actual failures in class-room lessons usually come because too much dependence is put upon constant repetition of a given experience, in undefined hope that the children will discover some clue which will show them what to do another time. Instead, each lesson must be thoroughly understood by itself, and in its series, in order that its principle can be so presented to the children as to meet a definitely understood need of their mental growth.

In many lessons observed this year it was perfectly evident that even the object to be studied had not been decided upon before the teaching began.

In addition to the complete understanding of the idea to be presented to the children, there must be a quickness of imagination in selecting words to be spoken which shall actually mean the idea to the children's minds from their point of view.

To know the foundation principles upon which the teaching of the Manual Arts is based, and carefully to plan a course of study which shall meet the requirements of the different communities where they are taught, are absolutely indispensable. To carry out each department of the work for the purpose of developing the children demands strict adherence to business principles and thoroughly adequate teaching.

Thus far for the imperative present needs.

Now, on the other hand, as to actual hopeful conditions, all supervisors, without exception, are responding to an insistent demand for readjustment.

The willingness to work during vacations, however much it taxes their time and strength, to discover, if possible, exactly what are the problems of industrial education, and to train their hands in making objects of different materials, and also occasional exhibits of their own art work in water color, oil and the crafts, show a determination to keep in the front ranks professionally.

Their cheerfulness and frankness in discussion at educational meetings are marked, and there is a constantly growing desire to exhibit the actual work of the child as he does it. The pushing of a few children to suggest a falsely high average is rapidly disappearing.

Again, what better sign of advance can the times present as

a result of faithful supervision and teaching of the Manual Arts than the fact that an increasingly higher per cent. of the children draw creditably, and that the practice of these arts is not confined to the periods assigned for drawing and painting, but has become a useful part of the regular work of the school. Moreover, efficient work is making a recognized place for itself because it is forming a link between the school and practical life.

But the High School presents to the supervisor his most difficult problem, and the one which most needs solution, since it has received the least attention. For several years a growing feeling has found frank expression that there should be better and more practical work obtained in the High School. "Unable to go alone," is suggested by Secretary Martin's phrase "Able to go alone." The former phrase voices the judgment of many disappointed persons who expected High School graduates to possess trained faculties of use in their own special work.

Unquestionably there has been too little sympathy with the subject of the Manual Arts on the part of educators in and above the High School. Much blame for this condition lies on the shoulders of supervisors and teachers, who have not shown that the time allowed for their work, short as it is, can be practically used.

During the last year seven high school conferences were held at the Bridgewater, Hyannis, Lowell, North Adams, Salem, Westfield and Worcester normal schools for their respective drawing teachers, supervisors and for high school teachers of the Manual Arts.¹

At the conferences questions were given to each supervisor and teacher requiring explicit answers to be written and mailed after a week's deliberation. These questions and typical reports will be given on page 274. The discussions and reports prove that the work of the 266 High Schools in regard to teaching and equipment, courses of study and results, naturally divides into four classes:—

1. Where the work is done by special teachers of mechanical and Freehand Drawing in separate rooms, with distinctive material for each subject. These schools are in the larger cities

¹ An eighth conference was planned, for the Boston district, but proved impracticable.

and a few towns. Their courses of study vary considerably, and each one is fairly complete in itself. The time devoted to the work is longer by several hours than in other High Schools, and the subject is recognized to the extent that marks are given which in some cases count as points for graduation. A careful record of each pupil's progress not only keeps the student ambitious, but stimulates desire for a higher standard of attainment.

2. The second class can be broadly considered as composed of the smaller city and larger town schools, where no special teacher is employed and the Supervisor of Drawing plans and conducts the work. A well-equipped room is set aside for the Manual Arts, which is used for both Freehand and Mechanical Drawing. The classes are usually separate, and ninety minutes a week is given to each. The work done is credited as one-fifth a regular study. Frequently in this class of schools it becomes necessary to accommodate students from different grades in the High School at the same time, which, dividing the teacher's attention, effectively lessens his use.

3. A third class receives the attention of the Supervisor as teacher, but has no separate room and little material for the work. No grading is attempted, the classes being obliged to meet in the assembly room. One hour a week is the time allowed, and in general no mark is given.

4. The Supervisor has thirty-five minutes each week and in some cases has charge of both Music and Drawing. The four grades in the High School are taught simultaneously. The equipment is meager and no record of the work is kept.

Of the 266 High Schools in the State, 59 have been carefully selected by the Agent for his personal inspection during the past year, and the following is their classification as suggested above:—

First class,	11
Second class,	15
Third class,	23
Fourth class,	10

In 7 of the High Schools under classification 1 the work is elective; in 3, compulsory for the first and fourth years,

while in 1 it is compulsory for the entire course. The three other classifications show a somewhat similar variety, but the work is more generally elective, with the exception of the very small one-room High Schools, where it is either compulsory for all grades in one class or not taught at all.

That the great diversity and inequality of methods and of work may be realized, the following courses of study and responses to questions previously suggested are submitted.

Since the courses are not presented as models, but merely represent what is actually being done, the names of places and of supervisors have been withheld.

Questions with reference to the Manual Arts in the High School:—

1. Are the Manual Arts taught by the supervisor or a special teacher?
 2. What are the physical conditions under which the work is done?
 3. How much time is allowed per week for the work?
 4. How are the classes divided?
 5. What kinds of Manual Arts are taught?
 6. Is the work compulsory or elective?
 7. List of materials used?
 8. Is credit given for the work and how much?
 9. What is the course of study?
- Answers to the questions and courses of study follow.

High School Course under First Classification.

DISTRIBUTION OF TIME IN THE GENERAL COURSE.

FIRST TERM.	
September,	Three weeks, Six lessons.
October,	Four weeks, Eight lessons.
November,	Four weeks, Eight lessons.
December,	Three weeks, Six lessons.
January,	Four weeks, Eight lessons.
	Eighteen weeks. Thirty-six lessons.
SECOND TERM.	
February,	Four weeks, Eight lessons.
March,	Four weeks, Eight lessons.
April,	Three weeks, Six lessons.
May,	Four weeks, Eight lessons.
June,	Three weeks, Six lessons.
	Eighteen weeks. Thirty-six lessons.

Arranged for a thirty-six weeks' course in the ten months of each school year, and providing for seventy-two lessons per year, to be given in fifty-minute periods twice a week.

GENERAL COURSE.

FIRST YEAR.

Representation.

Nature Study.—Sprays, branches with masses of foliage, flowers, or fruit. Trees and landscape.

Familiar and Beautiful Objects.—Groups of fruit and vegetables. Groups of objects of pleasing form. Backgrounds.

Studies of Life.—Costume poses. Studies of action. Animals.

Composition.—Indoor and outdoor effects. Examples illustrating principles of composition in line and mass.

Expression.—Memory and imaginative drawing. Home work. Class criticisms. Outline. Light and dark. Light and shade. Color.

Decoration.

Nature Study.—Growth in plant form.

Historic Study.—Egyptian, Assyrian and Greek styles. Architecture and ornament.

Principles of Composition.—Space filling. Opposition, transition, and radiation. Area.

Color.—Polychromatic study. Harmony.

Creative Effort.—Surface designs. Principles gained from nature or historic study.

Expression.—Outline. Light and dark. Color.

Construction.

Principles of Working Drawings.—Single solids. Views and sections. Revolution on axes.

Developments and Patterns.—Problems of single solids.

Plane Geometry.—Tangents and polygons.

Building Construction.—Examples of framing.

Machine Details.—Working drawings of simple models.

Expression.—Use of instruments. Conventions. Inking. Lettering. Study of pictures.

SECOND YEAR.

Representation.

Nature Study.—Masses of foliage, flowers or fruit. Characteristics of tree growth. Typical landscapes.

Familiar and Beautiful Objects.—Groups of still life, fruit, vege-

tables and objects. Characteristic accessories and backgrounds. Drawing from casts.

Studies of Life. — Costume poses. Studies of action and grouping. Animals.

Composition. — Indoor and outdoor effects. Principles of composition in line, mass and tones.

Expression. — Memory and imaginative drawing. Home work. Class criticism. Outline. Light and dark. Light and shade. Color.

Decoration.

Nature Study. — Massing of plant form.

Historic Study. — Roman, Byzantine and Saracenic styles. Architecture and ornament.

Principles of Composition. — Space filling in line and mass. Dark and light. Tones.

Color. — Polychromatic study. Harmony.

Creative Effort. — Studies of form and decoration as applied to pottery, etc.

Expression. — Outline. Light and dark. Color.

Construction.

Principles of Working Drawings. — Simple intersections. Views and sections. Revolution on axes.

Developments and Patterns. — Problems of intersecting solids.

Plane Geometry. — Practical problems. Arches, ellipse, helix.

Building Construction. — Examples of details of construction.

Machine Details. — Working drawings of some shafting detail, as a coupling, pulley, or pillow-block.

Expression. — Line shading. Tinting.

Study of pictures.

THIRD YEAR.

Representation.

Nature Study. — Masses of foliage, flowers or fruit. Trees and typical landscape.

Familiar and Beautiful Objects. — Still life. Fruit, vegetables, or objects. Accessories and backgrounds. Drawing from casts.

Studies of Life. — Costume poses. Studies of action and grouping for illustration. Animals.

Composition. — Indoor and outdoor effects. Principles of composition in line, mass and tones.

Expression. — Memory and imaginative drawing. Home work. Class criticism. Outline. Light and dark. Light and shade. Color.

Decoration.

Nature Study. — Characteristic of trees and landscape.

Historic Study. — Romanesque, Gothic, Renaissance and modern styles. Architecture and ornament.

Principles of Composition. — Space filling. Mass, tones and color.

Color. — Polychromatic study. Harmony.

Creative Effort. — Studies for designs in relief.

Expression. — Outline. Light and dark. Tones. Color.

Construction.

Principles of Working Drawings. — Problems in projection of shadows.

Developments and Patterns. — Problems in sheet metal.

Plane Geometry. — Practical problems. Cycloids.

Building Construction. — Plans of schoolrooms or halls.

Machine Details. — Working drawings of valves, wrenches or details which may be brought to the class room.

Expression. — Tracings.

Study of pictures.

FOURTH YEAR.

Representation.

Nature Study. — Advanced study.

Familiar and Beautiful Objects. — Advanced study.

Studies of Life. — Costume groups for illustration. Animals.

Composition. — Indoor and outdoor effects. Arrangements in line, mass and tones to illustrate stated problems in composition.

Expression. — Memory and imaginative drawing. Home work. Class criticism. Outline. Light and dark. Light and shade. Color.

Decoration.

Nature Study. — Characteristic landscapes.

Historic Study. — The Renaissance. Schools of painting.

Principles of Composition. — Space filling. Landscapes in color tones.

Color. — Polychromatic study. Harmony for decorative application.

Creative Effort. — Designs for relief.

Expression. — Outline. Light and dark. Tones. Color.

Construction.

Principles of Working Drawings.—Problems in third and first angles.

Developments and Patterns.—Problems in sheet metal.

Plane Geometry.—Practical problems, epicycloids and hypocycloids.

Building Construction.—Elevation of school details, windows, doors or entrances from measure.

Machine Details.—Working drawings of details which may be brought to the classroom.

Expression.—Tracings. Blue-prints.

Study of pictures.

DISTRIBUTION OF TIME IN THE DECORATIVE COURSE (ABRIDGED).

FIRST TERM.

September,	Three weeks,	Six lessons.
October,	Four weeks,	Eight lessons.
November,	Four weeks,	Eight lessons.
December,	Three weeks,	Six lessons.
January,	Four weeks,	Eight lessons.
	Eighteen weeks.	Thirty-six lessons.

SECOND TERM.

February,	Four weeks,	Eight lessons.
March,	Four weeks,	Eight lessons.
April,	Three weeks,	Six lessons.
May,	Four weeks,	Eight lessons.
June,	Three weeks,	Six lessons.
	Eighteen weeks.	Thirty-six lessons.

Arranged for a thirty-six weeks' course in ten months of each school year, and providing for seventy-two lessons per year, to be given in fifty-minute periods twice a week.

DECORATIVE COURSE.

FIRST YEAR.

Nature Study.—Growth. Sprays of flowers, leaves or fruit. Plants, shrubs or trees. Figures, animals.

Historic Study.—Egyptian, Assyrian, and Greek styles. Characteristics of the national arts. Study of the lands and peoples. Architecture, ornament and sculpture. Investigation of constructive and ornamental methods. Growth, mass and arrangement.

Principles of Composition.—Studies of space filling in line. Opposition, transition and radiation. Studies of area in mass and color.

Color.—Polychromatic study. Color harmony. Color schemes of historic schools.

Creative Effort. — Surface designs illustrating principles of nature and historic study.

Expression. — Outline. Light and dark. Color.

Parallel Course in Representative Drawing. — Studies of familiar and beautiful objects. Groups, fruit, vegetables, or objects. Memory and imaginative drawing. Home sketches.

SECOND YEAR.

Nature Study. — Mass. Sprays or branches with leaves, flowers or fruit. Masses of foliage. Figures, animals.

Historic Study. — Roman, Byzantine and Saracenic styles. Characteristics of the national arts. Study of the lands and peoples. Architecture, ornament and sculpture. Investigation of constructive and ornamental methods. Growth, mass and arrangement.

Principles of Composition. — Studies of space filling in line and mass. Dark and light, tones and color.

Color. — Polychromatic study. Color harmony. Historic color schemes. Color studies for decorative efforts.

Creative Effort. — Studies of form and its decoration as applied to pottery, etc. Contour and curvature. Fitness.

Expression. — Outline. Light and dark. Color.

Parallel Course in Representative Drawing. — Studies of groups. Still life, fruit, vegetables, or objects. Characteristic accessories, backgrounds, etc. Drawing from casts. Memory and imaginative drawing. Home sketches. Class criticism.

THIRD YEAR.

Nature Study. — Foreground and foliage. Trees and landscape. Figures. Animals.

Historic Study. — Romanesque, Gothic, Renaissance and modern styles. Characteristics of the national arts. Study of the lands and peoples. Architecture, ornament and sculpture. Investigation of constructive and ornamental methods. Growth, mass and arrangement.

Principles of Composition. — Studies of space filling in line and mass. Dark and light, tones and color.

Color. — Polychromatic study. Color harmony. Studies of harmony for decorative efforts.

Creative Effort. — Studies for relief. Metal, stone or terra-cotta. Studies for wrought iron.

Expression. — Outline. Light and dark. Tones. Color.

Parallel Course in Representative Drawing. — Studies of groups. Still life, fruit, vegetables or objects. Accessories, backgrounds, etc. Drawing from casts. Memory and imaginative drawing. Home sketches. Class criticism.

FOURTH YEAR.

Nature Study. — Decorative treatment of the human figure. Animals. Typical landscapes as backgrounds.

Historic Study. — The Renaissance. Development in different lands and nationalities. Great painters and their masterpieces. Study of composition and arrangement.

Principles of Composition. — Studies of space filling in line and mass. Figures in landscape. Color composition. Tones.

Color. — Polychromatic study. Color harmony. Studies of decorative harmony.

Creative Effort. — Advanced problems in surface, relief or designs for the round.

Expression. — Outline. Light and dark. Tones. Color.

Parallel Course in Representative Drawing. — Advanced study. Groups. Still life. Advanced cast drawing. Home work. Class criticism.

DISTRIBUTION OF TIME IN THE CONSTRUCTIVE COURSE
(ABRIDGED).

FIRST TERM.

September,	Three weeks,	Six lessons.
October,	Four weeks,	Eight lessons.
November,	Four weeks,	Eight lessons.
December,	Three weeks,	Six lessons.
January,	Four weeks,	Eight lessons.
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	Eighteen weeks.	Thirty-six lessons.

SECOND TERM.

February,	Four weeks,	Eight lessons.
March,	Four weeks,	Eight lessons.
April,	Three weeks,	Six lessons.
May,	Four weeks,	Eight lessons.
June,	Three weeks,	Six lessons.
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	Eighteen weeks.	Thirty-six lessons.

Arranged for a thirty-six weeks' course in ten months of each school year, and providing for seventy-two lessons per year, to be given in fifty-minute periods twice a week.

The distribution of time for drawing in the Mechanic Arts High School (unabridged course) is at present arranged upon a basis of five hours per week the first year, and two and a half hours per week during the second and third years.

CONSTRUCTIVE COURSE.

FIRST YEAR.

Descriptive and Plane Geometry. — Projections of single solids, three or more views in third angle. Revolution on various axes. Cutting planes and sections. Practical geometric problems. Tangents. Polygons.

Developments and Patterns. — Problems of single solids. Shapes of sections, elbows, etc.

Constructive Design. — Application of principles of design in studies for wood carving.

Building Construction. — Framing details of wooden house construction. Detail of first floor, second floor, attic floor and roof.

Machine Details. — Working drawings of tools, or builders' hardware.

Expression. — Use of instruments. Inking. Lettering.

Parallel Course in Representative Drawing. — Studies of familiar and beautiful objects. Groups. Home sketches. Studies of historic architecture and ornament. Characteristics of Egyptian, Assyrian and Greek styles.

SECOND YEAR.

Descriptive and Plane Geometry. — Projections of intersecting right solids, views in third angle. Revolution on axes. Planes and sections. Practical geometric problems. Applications to building construction, arches, windows and decoration of surface. Applications to machine design; ellipse, oval, helix and spirals.

Developments and Patterns. — Problems of warped and special surfaces.

Constructive Design. — Application of principles of design in studies for goblets, balustrades, vase forms, etc. Studies for wrought-iron design, grilles, gates, andirons, fire sets, etc.

Building Construction. — Details of wooden, brick or stone house construction. Doors, windows, foundations and chimneys.

Machine Details. — Bolts, nuts and screw threads. Pulleys.

Expression. — Line shading. Conventions. Tinting. Isometric representation.

Parallel Course in Representative Drawing. — Studies of familiar and beautiful objects. Groups. Home sketches. Drawing from casts. Perspective problems, furniture, interiors, etc. Studies of historic architecture and ornament. Characteristics of Roman, Byzantine and Saracenic styles.

THIRD YEAR.

Descriptive and Plane Geometry. — Projections of single and intersecting right solids in third and first angles. Projection of shadows.

Practical geometric problems. Applications to machine design; cycloid, epicycloid, hypocycloid and involute.

Developments and Patterns. — Problems of surfaces and the making of patterns to fit special conditions.

Constructive Design. — Application of principles of design in studies for castings, panels, reliefs, firebacks, etc.

Building Construction. — Plans and elevations of a two-story wooden dwelling house.

Machine Details. — Gearing. Cranks. Eccentrics. Cams. Selected details of machines; lathes, upright engine, dynamo, etc.

Expression. — Tracings. Blue-prints.

Parallel Course in Representative Drawing. — Studies of groups. Home sketches. Drawing from casts. Memory and imaginative drawing. Perspective problems. Studies of historic architecture and ornament. Characteristics of Romanesque, Gothic, Renaissance and modern styles.

FOURTH YEAR.

Descriptive and Plane Geometry. — Projections of single and intersecting solids, both right and oblique, in third and first angles. Projections of shadows. Advanced geometric problems.

Developments and Patterns. — Special problems in surface development.

Constructive Design. — Application of principles of design in studies for relief in stone or terra-cotta.

Building Construction. — Plumbing and drainage details. Heating and lighting problems.

Machine Details. — Complete details and assembly drawings from measurements from a lathe, upright drill, shaper, upright engine, dynamo, etc.

Expression. — Tracings. Blue-prints. Filing, labelling and checking systems.

Parallel Course in Representative Drawing. — Advanced study. Groups. Still life. Advanced cast drawing. Perspective problems. Studies of historic architecture and ornament. The Renaissance. Comparison of historic styles.

High School Course under Second Classification.

1. The supervisor teaches drawing in the High School.
2. Time, fourteen periods per week. One day, 8.30 to 1.30; two days, 8.30 to 11.45.
3. Four divisions of fourth-class pupils, four divisions of third-class pupils, three divisions of juniors, three divisions of seniors, one period per week for each division.
4. I teach both freehand and mechanical drawing. All boys have mechanical after the first year, and all girls freehand, unless they

express a preference for the other class of work. Same amount of time required for either course.

5. Drawing is compulsory for each of our 450 pupils throughout the four-year course.

6. Materials used: for freehand drawing—pencil, water color, charcoal, ink; for mechanical—pencil, ink; for design—water color, dyes (for stencilling on cloth), leather.

7. Credit given is the same as for any other one-period study, and is essential to graduation.

COURSE OF STUDY.

GIRLS.

First Year.

September and October.—Nature drawing in pencil. (1) Studies of details of selected plants (as nasturtium and hollyhock), including top and side view, section, etc., of flower, bud and seed-pod, and flat and foreshortened views of leaves. (2) Studies of sprays bearing flowers or berries.

November and December.—Mechanical drawing. (1) Geometric problems. (2) Construction of bonbon box or other object of cardboard or paper, finished with water color.

January to April.—Object drawing. (1) Review appearances of circles and straight lines. Make a sheet for each, consisting of dictated sketches and notes, and illustrative drawings clipped from magazines. (2) Outline pencil drawings from objects—large type solids, pottery, etc.

May and June.—Nature drawing. Studies of spring flowers.

Second Year.

September and October.—Nature drawing. Studies of flowers, fruit, etc., in pencil and water color.

November and December.—(1) Design for a border, using one of above studies for the motif. (2) Lettering. Make motto, finished with above border, or cover for school report.

January to April.—Object drawing, shaded in pencil.

May and June.—Flowers, in pencil or water color.

Third Year.

September to December.—(1) Fruit or flower sprays, arranged decoratively in panel, in three tones of gray (ink) or sepia pencil. (2) Lettering. Motto or school report.

January to June.—Drawings from casts of ornament or animal heads, shaded in charcoal. (Occasionally groups of objects in colored crayon.)

Fourth Year.

Design.—(1) Exercises in unit building. (2) Simple color scales. (3) Abstract units applied to surface covering, tile or plate border. Finished in water color, complementary or analogous coloring. (4) Stenciling. Design for a sofa pillow or table cover, applied to cloth with "Easy Dye." (5) Leather tooling. Penwiper, card case or purse. (Cloth and leather paid for by pupils.) (6) Design for graduation program.

Boys.

First Year.

September and October.—Same as for girls.

November to January.—Exercises in design. (1) Unit building. (2) Units used for border or surface, finished in water color. (3) Design for cover of school report, or note-book, with good lettering and simple decorative stamp.

February to June.—Same as for girls.

Second Year.

Mechanical drawing in pencil. (1) Geometric problems. (2) Projection of type solids. (Dictated work. Large classes.)

Third Year.

Working drawings in pencil. Views and sections of models, drawn to scale. (Individual work.)

Fourth Year.

Inking. Orthographic and isometric projection, joints, etc.

High School Course under Third Classification.

1. Do you teach drawing in high school? Yes.
2. How much time in all? Two days per week.
3. How do you divide the time? Teach five of the six forty-minute periods each day. Pupils elect freehand or mechanical or both, and are classified by years. May advance as fast as ability permits.
4. Is drawing elective or compulsory? Compulsory.
5. List of materials used. Drawing Kit No. 2, compasses, hard pencils, India ink, moist water colors, oil paints for stenciling, charcoal paper, onion skin, manilla paper, light weight water-color paper.
6. Is credit given for work? Yes. It does not count equal to other work. Low marks would not deprive pupils of honors. Marks go on record and are considered important by pupils.
7. High school course. Course not determined. Present supervisor began work in this town Sept. 1, 1907, and has been studying conditions. The work has been along following lines:—

A. FREEHAND.

First Year.

Model drawing. Cylinder, cone below the eye and at an angle, rectangular objects at an angle.

Outline, shading. Chalk and pencil on dark paper.

Nature drawing. Flowers, pencil and water color, trees from windows and out of doors.

Design. Always emphasizing beauty in space relations, applied to stencil patterns for table covers and for outline stitch on sofa pillows.

Second Year.

Model drawing and outdoor drawing of buildings and trees. Shading with pencil. Design applied to sofa pillows and stenciled curtains.

Third Year.

Same as second, with more indoor models. Very little water color, flowers.

Fourth Year.

Drawing buildings from windows and out of doors.

Designs applied to lamp shades of Japanese paper and to tooled leather. Cast drawing, and still life, charcoal. The efforts at applied design, though crude in many cases, have been stimulating. Lettering has been studied in connection with menu cards, pennants, programs and posters.

B. MECHANICAL DRAWING.

"Notes for Mechanical Drawing," F. E. Mathewson, and "Mechanical Drawing," Anthony, are used in connection with this course.

First Year.

Use of T square and triangles. A few geometric problems needed in construction. Working drawings of simple objects, as table, bookcase. Use of scale.

Second Year.

Use of T square and triangles. Principles of orthographic projection. Solids with axes perpendicular to horizontal plane, two views. Solids needing three views. Development of surfaces of prisms and cutting of prisms by planes. Development of pyramids when cut by a plane.

Third Year.

Same as second year. Cylinder and cone added.

Fourth Year.

Review principles of orthographic projection, use of scale, dimensions. Solids with axes perpendicular to horizontal plane. Pyramids, cylinders, cones, cut by planes. Development surface frustrums. Intersecting solids. Solids with axes at an angle to vertical plane. Drawings may be inked. Constant care in lettering.

8. What do you suggest as course for high school? Need more time to answer properly. The average boy should be able to make and read working drawings and letter; the average girl to use drawing whenever it will aid her in making or decorating useful and beautiful objects for herself, her home, her friends. Both should be trained to know harmonious color and led to desire it in all their surroundings. Something should be done to acquaint them with some example of good architecture, of great sculpture and paintings.

High School Course under Fourth Classification.

PRESENT CONDITIONS.

The classes are held in the main room. No continuous course has so far been possible.

Classes, two: (1) One class is composed of ninth-year students. The work done is general, — freehand, mechanical and design. (2) The other class is composed of second, third and fourth year students. The work done is mostly mechanical.

Time, one hour a week is allowed for each class.

The drawing is obligatory to all pupils except special students.

These exact conditions exist for the first time this year. I should say that the probable conditions next year will call for a modification of the present plans.

In one high school there is one class composed of all the grammar grade pupils and the four high school classes.

Thirty-five minutes a week is the time allowed in which to meet this problem.

About 200 students. Drawing period forty-five minutes, once a week. Only about 24 are able to take it (on account of conflicts). All classes in school may take it. The class room is a corner of the main room, in the farther corner of which is a class going on in some other study, and the remainder of the room is filled with students who are studying.

Much good work, to be sure, is done under existing conditions, but when it is realized that higher institutions, industries, trades and homes are expecting to feel more keenly the influence and benefit of the teaching of the Manual Arts, it will be seen

that such inequality of opportunity as is offered by our High Schools of today makes the attainment of a widespread general excellence in the Manual Arts impossible. The normal schools should be able to depend upon some certain standard of efficiency in this subject. The entrance examinations to the Normal Schools are now difficult enough to command respect for the Manual Arts, and the standard will be raised as rapidly as work in the State permits. Students who fail in the examinations should be conditioned, and be obliged to work off the conditions before graduation, if the schools fulfill their claim to be higher institutions.

There are many arguments in favor of at least two years of compulsory work in the Manual Arts in the High School, the first year for all students entering, and the fourth for those intending to go on to the Normal Schools or other higher institutions. It should also be possible for students to pursue a comprehensive, intelligently developed course in manual arts for four years if they so desire.

So few of the subdivisions of the subject under discussion are recognized in the curricula of the High Schools that a step toward their recognition must come first. Nearly two thirds of the high schools being under the third and fourth classifications gives force to the above statement.

Two methods of instruction prevail almost exclusively for the teaching of the Manual Arts in our High Schools: —

1. A short talk by the teacher, followed by a graphic record on paper by the student of what he sees as he looks at the objects placed for him to study.

In every High School the preliminary talk is explanatory or interrogative, as the case may require.

2. Dictation by the teacher to the pupils, or copying from drawings and plates by the students.

In a few very fortunate cases the teacher selects and guides the student through experiences which lead him to discover for himself the principles that govern his work.

Too frequent resort to dictation is unwise, especially as it fails to inspire the student with confidence. A greater variety of illustrative material and a more frequent use of legitimate

mechanical apparatus would give a wider opportunity for self-activity on the part of the student. If the work is directed along lines of more complete self-activity, it will grow faster.

It is largely the fault of Drawing teachers and their methods that the resulting work is not better. There are cases enough, however, where the right teacher is in charge, to show what can be done.

Instead of the attempt to prove that the Manual Arts are of value in so far as they assist other school work, it must be proved that in and for themselves they are worth knowing because they develop in the student those faculties, otherwise left dormant, which immediately fit him to act and to think independently and creatively in practical affairs of actual life.

THE AIMS OF MANUAL ARTS IN THE HIGH SCHOOL.

1. To teach the given subject so that it can be used freely at any time as a rough and ready means of independent expression.

2. To teach the subject so that it can be used for purposes demanding complete accuracy.

3. To discover or to develop in each pupil his first normal interest in "doing things," and to direct him into intelligent growth through the crafts.

4. To lay the foundation for taste by developing the perception of differences, distinctions and relations.

5. To teach Drawing (*i.e.*, Delineation) as the only universal language for self-expression and communication of ideas, common to all pupils whatever their racial inheritance, present situation and future occupation.

6. To teach, through the practice of design, the appreciation of its necessity, its utility and the possibility of its universal application.

Aim 1. — There is a difference between seeing and knowing what one sees. There is a difference between seeing and understanding what is seen. To draw freely, for instance, it is necessary to know and to understand the essential characteristics of a sufficient number and variety of objects which have been seen, and be able to suggest these characteristics and those of similar objects to the eye at will.

Aim 2. — Freedom is not inaccuracy, but suggestion is not detail. To draw accurately requires careful analysis for detail, classification of this detail, and rigid selection of all demanded for the purpose in hand.

Aim 3. — To discover to a child a wholly unsuspected love for “doing things,” and to quicken such activity, are the primary objects of teaching in developing pupils into efficient citizens. Such efficiency demands the habitual discrimination of worth from the lack of it, genuineness from sham, the love of work, ability to plan and work with materials independently, to appreciate skill, to buy sensibly and to use economically.

The crafts offer a practical means of developing just this necessary kind of intelligence, (*a*) because they can be carried on in the regular High School at moderate cost and without extra room, (*b*) because they train eye, hand and constructive thought in the processes actually needed in adult life.

Aim 4. — Children see obvious differences between classes of objects. Develop this power into ability to see differences between species within each class, between individuals within the species, and they are making mental distinctions of purposes for which differences exist, beginning to judge between things which may be used for the same purpose, as to which fits exactly into the desired result. Here begins realization that usefulness and lack of usefulness depend upon relations which are established. The result of such development is mental flexibility in instinctively selecting and combining details of the thing to be done, at the given place and time, whether for temporary or for permanent effect.

Aim 5. — To use a language one must know definitely what it can be used for and just how far it can be used in spite of its special limitations. The great use of Drawing for self-expression is Picture-writing, a pictorial record, that is, a record, in visual terms, of personal experiences, unless, indeed, the training in the lower grades has stunted the pupil's second normal interest, that of talking about what he is busy doing.

To use Drawing as a language for the communication of ideas is possible in three ways, — Object Drawing, Nature Drawing and Drafting. Each one of these divides into two

species, — drawing for suggestion and drawing for accurate detailed description. The first two general classes are free-hand; the third, Drafting, is divided into freehand and instrumental drawing, which deal respectively with suggestive and with accurately-scaled working drawings.

Drawing should be so taught that the pupil's mind, rather than being littered with vague impressions, is stored, through the eyes, with perfectly definite images. In this case the mental image is as available for use as the original object itself. Such drawing is Memory-drawing, and the most important aim of the work, because it results in ability to visualize and to reproduce objects and combinations of objects seen only with the mind, that is, Imaginative or Creative-drawing.

Design.

Aim 6. — Definition: "Design in the manual arts is composition, putting together of parts into visible wholes, that is, not only careful planning for some definite end, but also subordination of parts to a whole idea which shall be received by the mind through the sense of sight as a single complete experience without sequence of time and of mental process."

It divides as follows: —

1. Analysis of the historic use of ornament, that is, designed decoration and mere elaborate detail.

(a) Comparison of methods.

(b) History of evolution of means (motifs) employed.

2. Abstract problems for technique, in other words, facility of eye and mind.

3. Practical application in concrete cases.

(a) Home.

(b) School.

(c) Business.

The above is accomplished in two ways, by constructive design and applied ornament.

I. Constructive Design.

1. Three-dimension objects made in visible form.

2. Two-dimension objects made in visible shape.

(a) Actual making of objects out of pieces.

(b) Constructive decoration. (1) Applied by shapes¹ — outline, color mass. (2) Ornament applied in shape² — design.

3. Three-dimension forms seen through two-dimension shape.

(a) Landscape.

(b) Pose.

(c) Objects.

Known form seen through surface design.

II. *Ornament applied.*

1. In design (see Constructive Design 2, (b) 2).

2. As design to be seen alone obliterating its background.

(a) Single ornament.

(b) Single design made of several ornaments.

The necessity for Design, the instinctive desire to get the whole idea of an object as clearly and quickly as possible, which is the chief function of the sense of sight.

In respect to utility, Design (1) in contrast with confusion, catches the eye more quickly; (2) holds the attention steadily; (3) gives the feeling of comfort and so of pleasure; (4) gives definite images and so definite ideas; (5) stays in the memory and creates a desire for repetition of the experience.

Not only is Design a possible element in all hand work, and the only intellectual one from making a paper envelope to building a house, but it is the fundamental principle beneath all forms of creative art, even to the subtlest of the Fine Arts. To start a mind in the practice and appreciation of Design opens the door to the whole world of creative imagination.

As Fine Arts is the term applied to the subtlest expression of creative intelligence in which the mental quality seems all but independent of physical means, Manual Arts is used as a convenient term for part of the mental field, Industrial Education, that is, of education by means of the facts and relations of industrial life, the daily doing of the world's work, the field of Industrial Training.

¹ Carving may be three dimensioned but looks two.

² The ornament may be three dimensioned but looks two.

In addition to Industrial Training, the training of hand and eye for technical skill, it demands direct mental education by introducing into all Handicraft or other Manual Training, bench, shop and machine, the intellectual element of Design. This same education element may also be used in Drafting, the one other branch of Industrial Training which, in teaching, is inevitably associated with the Crafts, since its technique is so closely allied with that of Drawing.

HANDICRAFTS FOR SCHOOL USE.

Drawing and painting: pen, pencil, brush, charcoal, crayon, paint.

Carving.

Modeling.

Embroidery.

Weaving: raffia, reed, string, yarns.

Object making: paper, cardboard, wood, metal, leather, fabrics.

At the conferences was suggested the following general outline for High School Courses in Manual Arts for Handicraft and Drafting, planned to meet the needs of various purposes:—

Required: first year for all students entering; fourth year for students preparing for Normal School.

Elective: Freehand, second, third and fourth years; Mechanical, second, third and fourth years.

FIRST YEAR.

Required.

A. Observation Drawing (Delineation).

I. Growth and formation: nature drawing, — foliage, flowers, etc.

Four weeks, two periods per week.

Talk by Supervisor on the use of the eye and hand technique.

B. Design I. Outline and color — mass shapes.

(a) Decoration: constructive, applied.

(b) Ornament: motifs from A.

(c) Arrangements of school grounds; arrangements of school-rooms.

(d) Arrangement of work: blackboard, written, geometric, etc.

(e) Drafting: freehand working drawing for concrete practical experiments in design of objects.

Fifteen weeks, two periods per week.

Talk by Supervisor on practical application in home problems.

- C. Observation Drawing (Delineation).
 II. Construction: object drawing of geometric types and made objects.
 Ten weeks, two periods per week.
 Illustrative talk by Supervisor on necessity of Memory Drawing.
- D. Design II. Constructive for business purposes: pose, lettering, signs, advertising, posters, etc.
 Eight weeks, two periods per week.
 Talk by Supervisor on Design for practical business purposes.
 Public or school library display of illustrative material, and free access to such publications as "Printing Art," etc., for analytic study of actual work.
- E. Picture Writing. } Such work should parallel all other work
 F. Memory Drawing. } throughout the year and all subsequent years.

FOURTH YEAR.

[Required for students entering Normal Schools. Two or five lessons a week.]

- A. Observation Drawing I. (see First Year).
 (a) Pencil. { 1. Paper. }
 Chalk. { 2. Blackboard. } Six weeks.
 (b) Color. { 1. Crayons. }
 { 2. Water color. } Four weeks.
- B. Color Theory. Six weeks.
- C. Freehand and instrumental Working Drawing. Eight weeks.
- D. Observation drawing II. (see First Year).
 Pencil. { 1. Paper. }
 Chalk. { 2. Blackboard. } Six weeks.
- E. Design worked out and applied in the Crafts. Six weeks.

SECOND YEAR.

Elective, either course.

Two periods a week, but if possible to count as a regular course, five periods a week.

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| <p>I. Freehand.</p> <p>A. Painting of fall foliage. Lecture by Supervisor, as in first year. Six weeks.</p> <p>B. Design I. In Handicraft for boys and for girls. Lecture. Twelve weeks.</p> | <p>II. Drafting (mechanical).</p> <p>A. Freehand Delineation.</p> <p>1. Object drawing of mechanical details. Four weeks.</p> <p>2. Design, lettering. Two weeks.</p> <p>3. Freehand Working Drawings. Two weeks.</p> <p>B. Instrumental Drawing.</p> <p>1. Geometric Problems. }
 2. Projection. } Eight weeks.</p> |
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I. Freehand — *Con.*

C. Observation Drawing (Delineation). II. Construction (see First Year). Lecture. Nine weeks.

D. Design II. The Book: cover, title-page, headings and tail pieces, initial letters, spacings of subject-matter, relation of printed page to margins and indentations. Nine weeks.

Lectures on Historic Ornament.
Elective home reading.

II. Drafting (mechanical) — *Con.*

C. 1. Design — in a single problem in bench work (Manual Training).
2. Mechanical working drawing of completed object to scale.
3. Blue-print. } Ten weeks.

D. Bench work from blue-print carefully chosen by teacher as a problem in design. Ten weeks.

THIRD YEAR.

Elective, either course.

Two periods a week, but, if possible, to count as a regular course, five periods a week.

I. Freehand.

A. Observation Drawing. Accurate delineation and painting of foliage and flowers. Six weeks.

B. Design I. Color. Twelve weeks.

C. Observation Drawing. Construction. Nine weeks.

D. Design II. Practical problems in analysis.

1. Civic—buildings, bridges, city squares, town commons. } Nine weeks.
2. Landscape composition. }

Lectures on History of Art.
Elective home reading.

II. Drafting.

A. Freehand Delineation.
1. Type solids, including intersections. Four weeks.
2. Design in Lettering. Two weeks.
3. Delineation of mechanical details, with intersections. Two weeks.
4. Laying of flat water color. One week.

B. Instrumental Drawing.
1. Projection.
2. Working Drawings to scale from freehand dimensioned sketches. } Ten weeks.

C. Design. In an original problem in bench work (Manual Training) (see Second Year). Nine weeks.

FOURTH YEAR.

Elective, either course.

Two periods a week, but, if possible, to count as a regular course, five periods a week.

I. Freehand.

- A. Study in light and shade for form, of groups of objects (still life) and of casts, with charcoal. Twelve weeks.
- B. Similar study of form in color medium. Twelve weeks.
- C. Design II. Freehand color study of a room or series of rooms for a simple dwelling house. Twelve weeks.

II. Drafting.

- A. A complete set of working drawings for a simple machine or more complicated bench problem. Eighteen weeks.
- B. A complete set of working drawings for a simple dwelling house. Eighteen weeks.

Respectfully submitted,

FREDERIC L. BURNHAM.

JAN. 1, 1909.

APPENDIX E.

INDUSTRIAL EDUCATION AND THE PUBLIC SCHOOLS.

AN ADDRESS BEFORE THE MASSACHUSETTS TEACHERS'
ASSOCIATION, BOSTON, NOVEMBER 27, 1908,

BY

GEORGE H. MARTIN,

SECRETARY OF THE MASSACHUSETTS BOARD OF EDUCATION.

INDUSTRIAL EDUCATION AND THE PUBLIC SCHOOLS.

Industrial education has become a popular theme. Inquiry, discussion and experiment are rife among all nations. The problems presented are not local or national; they are universal.

The form which the discussion has assumed in this country makes it imperative that public school people should have a share in it, for their interests are vitally concerned.

On one side are people declaring the public school system to be a failure. If this opinion becomes general, the public school will be supplanted and some new institution substituted.

Other people are saying that the public schools are partly right but they are misplacing the emphasis in education, over-emphasizing some things and neglecting others equally or more important. If this is true, public school work must be modified, and school people must change their view point and adopt new practices.

A third class affirms that the public schools are doing their legitimate work, that they should not attempt to cover the whole field of education, but that a new type of school is needed. They would leave the public school as it is, but would supplement it.

Personally, I believe that the public school should be both modified and supplemented, but not supplanted. The school system has not been and is not now a failure. It has done the work which was intended by its founders and its supporters, not ideally, perhaps, but as well as its limitations would allow.

Education always and everywhere has two ultimate purposes. It is to get children ready to go alone. This is the parent's view point. When a child comes into a home, the parent who thinks at all immediately begins to forecast its future. Going alone means a great many things, but most important of all it means self-support, — the ability to get a living.

The other purpose of education is to prepare children to do the world's work. This is the view point of the merchant who wants qualified salesmen and bookkeepers, of the manufacturer who wants spinners and weavers, of the builder who wants carpenters and masons and painters, of the farmer who wants milkers and mowers, of corporations who want foremen and superintendents. It is, moreover, the broader and more unselfish view point of the statesman, who sees in education the preparation for citizenship and the safeguard of civil rights.

But these ultimate ends of education have never been the immediate goal of the public schools. The schools of New England were not founded nor have they been maintained to fit directly for getting a living, nor have they had directly in mind the various forms of the world's work.

Their function has been a broader and a more fundamental one. The people have reasoned that, underneath all forms of productive labor, there must be a foundation of general intelligence such as schools properly taught and administered might furnish. They thought that special intelligence and special skill must have appropriate soil to grow in, that they must be rooted deep in trained powers of mind, powers of observation and of thought, of analysis and reasoning, and that the study and discipline of schools tended to supply and enrich this soil. They believed that the mind being made to know as truly as the body to eat, and to grow thereby, opportunities for acquiring knowledge should be offered; that the knowledge should be varied in form, dealing with the world of things and the world of men, so that the young might acquire breadth of view, that their horizons of thought might be extended, so that they might be able to bring to the solution of the problems of their own daily life as they arose a wisdom drawn from knowledge wider than their own experience could supply.

So they have put into the elementary schools instruction in the use of the universal tools of life, language, spoken and written, and numbers, — the so-called three R's, — and that universal language, drawing.

Second, they have opened doors into the world of fact and experience, — the world of the present, in geography, where and how men live, and the sort of world they live in, from which

they must get their living; the world of the past, in history, how men have lived and worked and suffered, and by it all have grown in knowledge, in wealth, in power, in learning and in liberty; their own bodies, and how to care for them, that they may be strong, healthful and fit for the service of the mind.

Not satisfied with doing so much, the people have undertaken to widen still further the range of knowledge and to strengthen still more the powers by means of the high schools. They have opened the doors still wider into the world of the present through study of those sciences which have made possible all modern social and industrial progress. They have made their students acquainted, through study of classic languages and history, with that more remote past, in which all modern western civilization has its roots. As the fields of human knowledge have widened through discovery and invention, the schools have extended the scope of their work, that the youth of each generation might drink out of living and flowing streams and not out of stagnant pools.

The people have believed that this was the way to secure those ultimate ends of education of which I have spoken. They had the fullest conviction that a generation of children and youth so trained would be abundantly able to get a living and to do the world's work. And they believed, too, that education of this sort was the most stable foundation on which to build up political institutions.

This was the doctrine which has been preached in New England for two hundred and fifty years, and which has inspired all the other States to imitation.

This was the burden of that famous address of Horace Mann, contained in his fifth report, on the "Effect of education on the worldly fortunes or estates of men." It is summed up in a single sentence: "Intelligence is the great money-maker, not by extortion but by production."

This was the meaning of the section in the Constitution of Massachusetts:—

Wisdom and knowledge, as well as virtue, diffused generally among the body of the people, being necessary for the preservation of their rights and liberties; and as these depend on spreading the opportunities and advantages of education in the various parts of the country, and

among the different orders of the people, it shall be the duty of legislatures and magistrates, in all future periods of this commonwealth, to cherish the interests of literature and the sciences, and all seminaries of them; especially the university at Cambridge, public schools and grammar schools in the towns; . . .

This view of the function of the school has led through all the generations to personal sacrifices by mothers and fathers and to burdensome taxation by communities for the sake of their boys and girls. Nor has all this been in vain. The results have justified the efforts and the convictions of the people have been proved to rest in truth.

The people of this country have in the past been able to get a living. The world's work in production and distribution has been done, and through successive crises in public affairs the intelligence of the people has guided them to safe issues.

In it all there has been presupposed some mental ability to start with and a will to use the means offered by the schools. Where either of these has been lacking, the schools have failed to show results, and they have always been lacking in some individuals. Every community in all the years has had its "ne'er-do-weels." Mrs. Stowe's Sam Lawson and Irving's Rip Van Winkle are types of men who have amused and provoked the good people of their day, but they have in the past been too few to cause anxiety and they have not been advertised as "products of the schools."

The view of education which the public schools have embodied was most tersely stated by John Stuart Mill in his famous inaugural address at the University of St. Andrews, in 1867: —

Education makes a man a more intelligent shoemaker, if that be his occupation, but not by teaching him how to make shoes; it does so by the mental exercise it gives and the habits it impresses.

Substitute for "shoemaker," farmer, carpenter, blacksmith, bookkeeper, milliner or cook, and the statement would still be true.

Mill's statement implicitly assumes that at some time, somewhere, by somebody, his man has been taught to make shoes. The education by which he became an *intelligent* shoemaker

has been superimposed upon another sort of teaching, viz., that by which he has become a shoemaker at all. For that specific teaching Mill suggests no provision. The same assumption has existed in all public school education, that the specific occupation by which the man is to earn his living is learned somewhere else than in school. The school is not to make the boy a workman, but it is to help him to become a more intelligent workman, and, therefore, presumptively a better workman, for a stupid and ignorant man cannot be a good workman in any occupation.

In the world's work of which I have spoken there are certain universal and fundamental elements. There are the homely duties of domestic life, and the simple productive industries by which men are fed and clothed and sheltered. The way in which these are done conditions the whole social fabric. The difference between savagery and the most highly developed civilization is measured by the degree of skill and intelligence with which food is raised and prepared and served, and clothing and homes made comfortable, beautiful and elegant.

It is an interesting and significant fact that no scheme of education of which we have record has made any provision for these essential elements of social well-being. Greek education trained the youth of Sparta in the use of arms, inured them to the dangers and hardships of military life, and fired them with soldierly ardor and ambition. The youth of Athens acquired grace and beauty of form, rhythm of motion, the art of persuasive speech, and perception of the true and the fit in music and literature and art.

Because we hear nothing of training in domestic duties and in craftsmanship, are we to assume that there was no such training? To such an assumption the Parthenon, on the one hand, and the transformation of Rome by the luxurious and refined manner of life of the later Greeks would be a sufficient answer.

Athenian and Spartan education was for citizens; the world's work was done by slaves. How they were trained we may learn from Hesiod's "Works and Days."

We come down the centuries and read of education in the Middle Ages. It is the education of noble youth for knight-hood. The world's work of the every-day sort is done by serfs;

the building and adorning of cathedrals and palaces by the craftsmen of the guilds. We note, too, that the work of the great educational reformers made no account of the training for housework or for crafts. Luther established schools for learning. Rousseau in his epoch-making treatise "Émile," describing the ideal boy for whose education he is to provide, begins with the declaration, "Émile shall be rich." Ascham wrote his "Schoolmaster" to show how boys might be taught Latin without beating, and Milton wrote his famous "Tractate" for gentlemen's sons.

So New England has but continued the thought and practice of all nations and times in providing for these fundamental social necessities outside of the scheme of formal education. How the girls learned to cook and sew and to become tidy housekeepers, and how the boys learned to become farmers and craftsmen has been told too often of late to need repeating here.

While the schools have gone on studying the education of the past and learning wisdom from the theory and practice of the more modern reformers, expanding and developing their work to make themselves more efficient agents for promoting that general intelligence which they conceived it their mission to foster, great social changes have been going on unheeded.

This is not the place to describe the social revolution caused by the discovery of the use of steam. Its phases are too many and too varied, though there is scarcely one of them that would not be germane to this discussion, for there is never a social change of any character that does not sooner or later reach to bless or blight the lives of children.

The root out of which all these changes have grown was the substituting of manufactured power for manual labor. From this came the change from tools to machines, from the home and small shop to the factory, from complete to divided and subdivided labor.

From these came the employment of women outside the home, and, most prolific of all changes in modifying the conditions of living, the change from rural and semi-rural to city life.

Added to all these came foreign immigration, before the native population had adjusted itself to the new conditions, bring-

ing people with an endless variety of strange languages, traditions, customs, standards of living, and, more serious still, bringing their private quarrels and their political hatreds, their superstitions, their crimes and their diseases. Following this, and partly because of it all, came the closing of those doors of opportunity in the undeveloped West which had stood wide open for the ambitious and enterprising youth of all the earlier generations.

While these changes have been going on, and because of them, wealth has increased beyond all earlier conceptions, often with dazzling rapidity and with little apparent effort. An ever-increasing number of people has been relieved from the necessity of toil, and an ever-increasing number of children from the opportunity and privilege of helping in the home.

Out of it all has come a changed attitude toward industry, and a widespread desire to gain the prizes of effort without the effort.

All these new features of social life have added enormously to the problems of the public school, and, shutting its eyes to all other problems but its own, it has set itself with earnest purpose and splendid energy to their solution. It has dealt with the masses of city children, deprived by city conditions of the two means by which children thrive, — work and play. It has grappled with the difficulties of foreign languages and with foreign ignorance and prejudice. What the public school has done and is still doing for the children of the immigrant forms one of the most splendid chapters in American history.

It has set up compulsory laws, and drawn and held by force great numbers of children whom parental greed would have forced into premature labor, and others whose small intelligence and vagrant instincts would have left outside the schoolhouse.

In all this work it has adhered religiously to its creed, — that its mission was to promote general intelligence, — and it has sought to create for new generations the same intellectual atmosphere in which the earlier generations grew up. It has resolutely persisted in furnishing for rich and poor alike, for the children of the immigrant as for the children of the native, for those who could look forward to extended educational oppor-

tunity and for those whose school life was short, the sort of education which all earlier ages had designed for "gentlemen's sons."

One of its latest efforts was to enrich the elementary school course with Latin, algebra and physics. Never was there a more absurd anachronism. The times called for bread and we offered a stone.

John Stuart Mill's shoemaker, having been taught somehow to make shoes, was to be made an intelligent shoemaker by education. But supposing he had never been taught to make shoes, what would his education have done for him? It might have made him an intelligent man, but he would not have been a shoemaker at all, and then where should his living come from?

This is exactly the condition in which modern school education finds itself, not only in this country but in all the civilized countries of the world, for modern conditions are the same everywhere, because the age of steam is a universal age.

While the schools have been trying to make shoemakers intelligent, nobody has made them shoemakers at all. The superstructure remains finer than ever before, but its foundation is gone. There are no slaves or serfs to perform the homely duties of domestic life and to carry on the productive industries, no guilds with their apprentice systems, no fathers and mothers and masters to initiate the young into the work by which they must earn their living.

This statement should not be taken too literally. It is intended for a generalization. Society is not left wholly without trained workers either in the home or in the shop. The bottom has not really fallen out; the vessel only leaks.

We are still fed and clothed and sheltered, perhaps better than any other people have ever been. There is no occasion to become hysterical, but only to discover the drift of the current and take precautions.

The philosophy of public education is not false; it is only incomplete. The practice of the schools is not wrong; it is only inadequate. Education will still make the shoemaker intelligent, but education must also undertake to make him a shoemaker.

The public must furnish the means of promoting the indus-

trial efficiency of all the children of the present generation, and it cannot begin too soon to formulate its plans. So far as this is a manufacturer's problem, the manufacturers can solve it in their own way, either alone, as so many are doing, or in cooperation with the public, as at Fitchburg. But it is primarily a social problem and society must solve it, and solve it through its public schools. The new work set for the public schools is not merely to make mechanics; it is to promote industrial efficiency in the community, for the sake of the individual worker and for the sake of the community as well.

It is of supreme importance that there be no division of education into education for culture (so-called) and education for industry. Such a distinction would be fatal to American society. It would lay the foundation for class divisions where they have never existed in our country, where more than anywhere else there has been absolute equality, both of duty and of opportunity. Education should be conceived of as being all for culture and all for industry.

Of all the elements which go to make a man or woman industrially efficient, technical skill looms up so large as to obscure a number of others no less important. Before discussing the means by which this may be obtained, allow me to call your attention to some of these others. I do it because I believe the industrial efficiency of the workers in any community could be greatly increased by public school effort without the expenditure of a single additional dollar.

Among these essential elements I name a command of English, a command of numbers and a command of drawing. These are as much tools of a trade as are the plane of the carpenter and the trowel of the mason. They are universal tools, necessary to the working in all trades.

I use the word "command" to signify their use as tools. The English for this purpose is not academic English, the English of the school reader and the school essay, but the simple, direct English, in which men at work give and take directions, in which they write orders and rules, which they use in correspondence and in contracts and specifications. A command of English means ability to read, to write and to speak such English as it is needed.

By a command of numbers is meant the ability to think numerically, and to make quickly and accurately the simple combinations of numbers, whole numbers and fractions, which are the tools alike of the cook, the dressmaker, the carpenter and the farmer. It includes an exact conception of the units of measure and of weight used in all industries, and ability to handle them readily as needed.

Children have to do many stunts in arithmetic without getting this command of numbers. Booker T. Washington, in his "Working with the Hands," tells of finding numbers of young men in the South who could do sums in bank discount but could not find out why their fathers lost money on every bale of cotton they raised.

By command of drawing is meant simply ability to represent, both by freehand and by instruments, the form and proportions of objects seen or remembered, or only conceived. I saw a table yesterday. I want one made like it. It looks like *that*. I know what kind of a table I want, but I have never seen one like it. It would look like *that*. Substitute for table any of the thousand and one objects of construction and use and you have my idea. I do not mean ability to make pretty pictures. Work of this sort done in the public schools would go far to disarm the criticism now so rife among practical men.

Beyond this, industrial efficiency would be promoted by acquiring a general knowledge of those industrial processes which form the largest part of the world's work. The elements of all these processes are simple and easily understood by children and easily practiced. The principles of the basic industry — agriculture — are delightfully simple and easily illustrated. The conditions of plant life and growth and reproduction, the relation to them of insect and other animal life, can be shown in every schoolroom, are now shown in many, but rarely carried over in thought to the industrial conditions which they represent in miniature. The elementary processes of all textile manufactures, spinning and weaving, too, are simple. Seen in the little in school, wherever the textile industry exists they may be seen also in the large in the factory.

Ideas of organization are needed by all who are engaged in

any part of the world's work. The advantages and the necessity of it should be taught when studying the various industrial processes, and those personal relations and obligations which organization calls for need to be emphasized.

One of the most general complaints made by employers of youth, especially of American youth, is that they do not know their place, are not willing to take directions, as some have phrased it, "are too bumptious." Industrial efficiency means willingness to work in a subordinate place as truly as military efficiency means willingness to serve as a private. In neither case does it preclude or chill ambition for advancement.

Knowledge of the materials used in the industries is another requisite. What they are, where they come from, how they are produced, how transported and marketed. Such knowledge is easily obtainable as to all the great staples, — wool, cotton, silk, flax, lumber, the metals and all the food products.

An important element of this study is the notion of cost. All employers of labor assert that apprentices are wasteful of material, not wilfully, but through ignorance. It would seem that, if the youth before entering any industry could be impressed by the number of operations involved, the distance transported, the people employed in the preparation of the material they handle, they would get some adequate idea of the cost, and be more economical in its use.

These are some of the intellectual elements that go to make a man or woman a useful worker under modern industrial conditions. I suspect that while I have been speaking you may have been saying to yourselves, "We are doing all this now." I know what you mean; but if you think so, you do not quite know what I mean. You are thinking of your nature study and your geography and your elementary science as well as of your reading and arithmetic and drawing. So am I, and I would not throw them away. I would think of them and present them and teach them, not as so many school studies used for school ends, but, looking outside and beyond the schoolroom, outside and beyond school life, I would see them all in the light and in the atmosphere of the home, the workroom and the field. They should be not the playthings of children, but the tools of

workmen, the means by which the children may learn to help, service being the end of it all. I think they would gain some in dignity in such a light, perhaps some in interest.

What has been said of the elementary schools is even more true of the high schools. With their palatial buildings, their finely equipped laboratories, their accomplished instructors, they are too costly to serve only the purpose of a more extended and refined scholarship, and a more absorbing cultivation of sports. Least of all should they create or minister to a select social class. Of all educational institutions, their motto should be *Noblesse oblige*. Having given them much, the public has a right to require much of them. They, too, should begin to look the world's work squarely in the face, not only the work of the office and the counting room, but the work of the shop and the mill.

The most striking feature of modern productive industry is the extent to which it has turned to practical use the advancing knowledge of the sciences and mathematics. Agriculture has been revolutionized just so far as it has made use of chemistry and biology and botany. In the manufacture of leather and paper and textiles and food products, and in the refining of metals, chemistry has wrought changes as great. In the manufacture and use of steam and electric power, physics has done a similar work. In the enormous development of engineering, science and the time-honored algebra and geometry have come to their fullest fruition.

Is it not possible, is it not necessary, that the windows of the high school should be thrown wide open to the light and air of this new industrial life? By turning their study of science and mathematics and some of their history into these new channels, the high schools would lose nothing of their dignity while adding immensely to their usefulness. I have no doubt that if the experts who now direct the work in these departments of our great city high schools should together undertake to work out this new problem, they would achieve splendid success.

There is a moral element without which there can be no real and permanent industrial efficiency. Unless the workman feels a sense of obligation to his employer, to the public and to himself to do the best work he is capable of doing, he is not a good

workman, no matter how much he knows of his trade and how skillful he can be.

Ask nine tenths, I might almost say ninety-nine hundredths, of the women who employ domestic labor, and a majority of men who employ workmen of any kind, and they will tell you that their most serious trouble is not that workmen do not know, it is that they do not care. This is the most deep-seated, the most pervasive, the most subtle evil in modern industrial life. It is a disease of the will and the conscience. To remedy it will take all the effort of the schools. But it will take more; it will tax the wisdom and the effort of the home and the church, and it will need the co-operation of the great organizations of labor, which should add to all their beneficent efforts for the workman this supreme sort of education. It will need, too, the example of employers of labor. Men in business who are ready at every opportunity to take unfair advantage of their competitors, executive officers of corporations who are occupied in their offices in preparing collusive bids for public or private work, can scarcely expect the workmen in their shops and yards to live up to the full demands of an enlightened and sensitive conscience.

Turning now to the purely technical side of industrial education, I believe the existing public school can be made the most effective agent for its promotion, and the most economical one.

On the side of woman's work, especially the domestic industries, the public school has shown what it may do in its departments of cooking and sewing. It has only to extend these to include on the one side a more thorough study of dietetics, the study of sanitary housekeeping or home hygiene and laundry work, and on the other side to machine sewing, dressmaking, embroidery and millinery, to cover the needs of society more than fairly well. Why may not all the work now done by such schools as the Manhattan and the Massachusetts Trade Schools for Girls be done for the same sort of girls under public school auspices? The experience of the public high schools in preparing girls directly for vocational work in bookkeeping and stenography has, on the whole, been so successful as to justify a wide enlargement of their vocational work.

Technical skill means knowledge of the tools of a trade and

of how to use them to the best advantage on the materials of the trade.

Here again, what the public school has done shows what it can do. It has taught to many boys the use of the tools of the cabinet maker and the metal worker, and it has shown to them the relation of drawing to these crafts. It has not done it for the sake of the crafts. It has expressly avoided all thought of the crafts. But this was because of the philosophy of education of which I have spoken. This work has been done to promote general brain activity by stimulating the motor centers, and done for the sake of general intelligence. It has been to aid in the school work, and not to aid directly in the world's work. But unconsciously, perhaps unwillingly had they known it, the advocates of manual training have been taking a long step toward trade training.

The question is often asked, "What is the difference between manual training and industrial education?" Manual training is not industrial education but is an element of it. Learning the difference between a jackplane and a smoothing plane, and when to use one and when the other, is the same process when done as a lesson in manual training in a school shop as when done by an apprentice to a carpenter. And the ability to make and read and work from a drawing is industrial education, whatever it is called.

Manual training, then, so far as it goes, is industrial education. If there were added in the school shops instruction in the calculation of the cost of material and labor, of the articles made, as might easily be done, if, as in the Eliot school in Jamaica Plain, under the direction of Mr. Frank M. Leavitt, articles of commercial value were made and the principle of divided labor applied, the manual training would simulate still further trade training, and would be a useful step towards it.

But the essential difference between manual training and industrial education remains. Industrial education on its technical side has for its motive the acquisition of skill in a particular trade for wage-earning purposes. The boy in school learns the use of the saw and the plane as he learns the use of the pen and the pencil for school purposes, and his ambition is aroused

to get good school marks. The boy in the shop learns the use of the same tools, learns to use them no better perhaps than the other, but he learns it and knows he is learning it and feels he is learning it so that he may become a carpenter, and build houses and earn good money. The feeling of a purpose is of vast importance in any department and in any period of life, but never of so much importance as when it is just stirring and crystalizing in adolescent youth. This, then, is the time for specific trade instruction for wage-earning ends.

I said at the outset that I believed the public school work should be both modified and supplemented. I have tried to show how it might be modified to meet modern industrial and social conditions without changing its nature and without adding to its cost. For specific trade instruction there are needed supplementary departments of existing schools or supplementary schools, perhaps both.

In every grammar school district in the larger cities there are enough boys who must go to work early, or who want to go, and who now drift into comparatively unremunerative and non-educative employment, making a business of the mere chores of business, to form a class or school by themselves, where they might in one year or two, under appropriate shop conditions of discipline and instruction, learn the elements of some trade or trades. This would be in the nature of a pre-apprenticeship school. Its boys could enter on their work as apprentices at an advanced point as to skill and wages. I see no reason why such schools might not be a part of the public school machinery; in fact, there is every reason why they should be.

In many rural high schools there might be, and I believe should be, established courses in agriculture, using land owned or leased for the purpose, co-operating with the farmers of the community. These courses should be the dominant ones in such schools. They should be broad, scientific, scholarly and supremely practical.

In high schools of towns or cities of a single dominant industry, technical departments should be established in co-operation with the manufacturers, — departments co-ordinate in dignity and scholarly spirit with other departments. In large cities,

with more varied industries, special polytechnic high schools should be established, covering such ground as the local needs might suggest.

Along such lines, in my opinion, public education is destined to move in the near future. We are living in a new epoch, and social forces will, with us or in spite of us, shape the education of its youth to meet its present needs.

But I do not believe that those forces will be blind to the continued and perpetual need of such work as the public schools have been and are now doing. While that work is not designed to add directly to the vocational efficiency of its students, while it does not consider itself responsible greatly for their ability to get a living, it does undertake to make their life worth living. There is some danger that over-enthusiastic friends of industrial education may weaken the faith of the people in the public schools and in their work. There is a class of employers of labor who are advocating industrial education, meaning by it the narrowest kind of trade skill, who would reduce all other schooling to a minimum. These people are looking for better machines, not for a high type of men and women. Such demands are to be resisted. Nothing could be more mischievous. American society will never outgrow the need of that general intelligence which the schools and colleges have furnished.

No man, however skilled in his vocation, but will need, and need in proportion to his skill, the refining and humanizing influences which come from study. The more highly developed the country becomes as a great industrial organization, the larger the earnings; and the more the leisure of the people, the more will be the need of a love of books and a love of nature and a love of art and a love of service, which the schools are trying to foster.

So long as the country opens its doors to foreigners the schools will need to do their transforming work. The obligation imposed upon the president and professors in Harvard College, upon the preceptors of academies and upon all instructors of youth by the Massachusetts Legislature of 1789, to use their best endeavors to impress upon the minds of children and youth committed to their care "the principles of piety and justice and a sacred regard for truth, love of their country, humanity

and universal benevolence, sobriety, industry and frugality, chastity, moderation and temperance," because these are the basis of a republican government, will not be lessened because the men and women are trained to earn more money and earn it sooner.

I have quoted from Horace Mann's report on the relation of education to money-making. But this was not, in Mr. Mann's mind, the supreme end of education. In the closing paragraph of this report he says:—

But notwithstanding all I have said of the value of education in a pecuniary sense, and of its power to improve and elevate the outward domestic and social condition of all men, yet in closing this report I should do injustice to my feelings did I abstain from declaring that, to my own mind, this tribute to its worth, however well deserved, is still the faintest note of praise which can be uttered in honor of so noble a theme; and that, however deserving of attention may be the *economical* view of the subject which I have endeavored to present, yet it is one that dwindles into insignificance when compared with those loftier and more sacred attributes of the cause, which have the power of converting material wealth into spiritual well-being, and of giving to its possessor lordship and sovereignty, alike over the temptations of adversity and the still more dangerous seducements of prosperity, and which—so far as human agency is concerned—must be looked to for the establishment of peace and righteousness upon earth, and for the enjoyment of glory and happiness in heaven.

The people of the United States have forced upon them a more complicated and difficult task in education than has ever confronted any other people. We have three ends to strive for,—technical skill, general intelligence, with that refinement of thought and feeling and speech which goes by the name of culture, and a sense of civic obligation which must underlie all successful popular government. The Greeks developed the feeling of civic obligation and refined culture to a supreme degree, but technical skill was possessed only by slaves.

The technical skill of the Middle Ages has filled Europe with masterpieces of craftsmanship in its museums and public buildings, but there was little refinement, and the highest form of civic sense consisted in loyalty to a guild or to a city. In the countries of Europe which are now developing systems of technical instruction so rapidly, that combination of individual

freedom with obedience to law which we are trying to secure is not a heritage, and is not the mission of the school.

America has taught the world many lessons. If it can show how to create out of the diverse elements of its population a people skilled in all the arts of industry, enjoying and appreciating the fruits of learning, and with honesty and wisdom shaping and guiding their own political affairs, it will awaken new admiration, will provoke to new imitation and will put the world under new obligation.

To this work the times are calling the people, and especially the school people of the country. I have tried to point out the new view points which we must occupy. Industrial education is not to be brought in by the blowing of horns, but by the patient, wise and co-operative effort of all social forces.

APPENDIX F.

REPORT OF VISITS TO NORMAL SCHOOLS
IN OTHER STATES,

BY

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REPORT OF VISITS TO NORMAL SCHOOLS IN OTHER STATES.

Through the courtesy and by the direction of the State Board of Education I spent a month, twenty-one days in May and nine days in October and November, 1908, in visiting normal schools in other States. At the suggestion of the secretary, I studied in particular this question: How and to what extent are children used in the preparation of teachers? I visited the following schools in the order named: State normal schools at Terre Haute, Ind., Charleston, Normal and DeKalb, Ill.; the city normal school at Chicago; State normal schools at Ypsilanti, Mich., and Buffalo, N. Y., the city normal school at Rochester, N. Y., State normal schools at Plattsburg and Potsdam, N. Y.; the city normal school at Philadelphia; State normal schools at West Chester, Pa., and Montclair, N. J.; the city normal school at Brooklyn, N. Y.

SOME GENERAL IMPRESSIONS.

The meaning of "normal school" varies in different States. In many sections of the country it signifies an institution that fits students to teach by giving them the general education required, together with as much professional training as the length of the course allows. Such institutions are dominated by college and university ideals, and many of them have legislative authority to grant college degrees of B.A., B.S., and sometimes others. It was at such an institution, one of the largest, that I was informed by the head of the department of observation and practice, as we visited the practice schools, "We make no attempt to develop any skill in teaching. We simply let the student walk around the teaching process and look at it." The normal school, wherever situated, adapts its work to the needs of the community. If most of its students

need academic instruction, this is given, for it must precede professional study.

In localities having well-developed school systems, with opportunities for high school education preceding the normal school, there is a different emphasis, — the aim being to develop skill in teaching. Such schools are professional schools. They require for admission a knowledge of the subject-matter which is to be taught in the grades below the high school, together with a certain maturity and culture represented by graduation from a good high school. They make it their business to teach the principles of education as derived from experience and from science, to apply these principles to the subject-matter to be taught, to let their students see these principles in every-day use in the schoolroom and finally put them into practice there themselves.

The aim of these schools is not to give a general education or a broader culture, but to develop skill in teaching, just as the aim of medical schools is to develop skill in healing. They exist in the most fully developed form in the large cities — Chicago, Milwaukee, Rochester, N. Y., Providence, R. I., Philadelphia and New York, to mention those that I have visited — and in suburban communities where the school systems are well developed, as at DeKalb, Ill., and Montclair, N. J. This distinction between the two classes of schools, both of which are called normal schools, must not be forgotten in considering the work of the Massachusetts normal schools in the light of what is being done elsewhere.

The large number of male students in normal schools that are not strictly professional schools and the small number in those that limit their scope to the professional preparation of teachers for grades below the high school is noticeable. Schools of the first class are situated in the less densely populated, less developed sections of the country. Here there are many one-room rural schools in which young men are employed as teachers. In Indiana and elsewhere a certificate to teach such a school does not require as long a preparation as one to teach in a graded city school. In Massachusetts these one-room school buildings, formerly very numerous, have decreased in numbers until to-day they are attended by less than 5 per cent. of the pupils in the

State. Returns from every town and city in the State place the number of these schools at 879 — 161 of them reporting an attendance of 10 pupils or less — with teachers' salaries ranging as low as \$7 a week, and in some cases even lower.

A separation of theory and practice is the rule in schools of both classes. Teachers of subjects in the normal school usually have nothing to do with children in the practice schools. These teachers often teach "special method" in their respective subjects, but even then do not come directly into touch with children. In theory this was defended at only one school, but in practice any other arrangement was declared by nearly all to be well-nigh impossible. I was informed that normal teachers do not like to work with children and that this disinclination grows with length of service. One normal principal remarked that some of his teachers had not "seen" a child in ten years. Teachers of psychology and child study teach from texts and by lectures, and do not use children even for observation. At one school a system of observation in connection with this department is being planned. At another I learned that the idea of using children in connection with the teaching of child psychology is only a fad, — as I remember was once the idea of using chemicals in connection with the teaching of chemistry. We have today our "Fourteen Weeks in Child Study" as we used to have our "Fourteen Weeks in Chemistry." The latter required no laboratory; the former requires no children.

There is a growing tendency to add to the broadening cultural influences of the schools by securing stimulating, inspiring men and women for courses of lectures and readings, and by giving the students frequent opportunities to listen to good music. "The salary of one teacher should be spent for itinerant teachers" was one form in which the idea was expressed. Magnificent auditoriums have been provided in the new normal school buildings in Illinois, — the interior decoration alone of that at Macomb having cost, I was informed, nearly \$40,000. The day I visited one of the Pennsylvania normal schools the principal had been trying to secure a famous singer for a recital at the school and had only given up the project because her charge was \$1,000.

SCHOOLS FOR OBSERVATION AND PRACTICE.

The term "model schools," applied to schools connected with a normal school and used in the training of teachers, expressed the original purpose of these schools. They were to serve as models, to be looked at but not to be taught by normal students. They were like the objects in public museums, either under glass or bearing the tag "Do not handle." Some museums have begun to remove these restrictions, and to allow objects to be examined and handled by students under the direction and in the presence of a director. Similarly now in the "model school" students sometimes take charge of classes and handle children in the presence of the supervisor. Such schools are often called training schools. Other institutions go a step further and place schools for longer or shorter periods directly in charge of students, who work under the direction but not in the constant presence of a supervisor. These schools are called "practice schools" when those who designate them are not fearful that the word will intimidate parents. Two sets of schools, one for observation and one for practice, are sometimes maintained, and more rarely experimental schools, where new ideas and theories may be tested.

OBSERVATION.

That the student as a part of her training should observe others teach is the accepted belief at all the schools I visited, with the possible exception of one, where I was told the principal did not believe in observation as usually conducted. What this means is doubtful, as nearly every school follows a different method. Students observe lessons given by their own classmates who are teaching for the first time, — lessons that in rare cases have previously been or are later to be discussed; students observe lessons given by a room teacher, a skilled teacher, and report upon them to an absent critic teacher, who points out the elements of strength and of weakness; students observe lessons given by heads of departments in the normal school to classes in the practice school, at which lessons other members of the faculty and often the principal is present, — lessons

which, after the practice school class is dismissed, are discussed by the members of the faculty and the normal school students, and also by visitors who may happen to be present and are inclined to take a part; students observe lessons given by room teachers or supervisors, at which lessons the teacher of method with whom they are to consider them later is present. Some believed that observation should precede practice teaching, others that it should be concurrent with it.

That the student should gain some skill in teaching by preparing lessons and teaching them is commonly held. The amount of time and attention devoted to this work varies greatly. The requirements for admission, the typical school of the community, and the opportunities for practice afforded by the town or city in which the normal school is located seem to be the chief factors in determining the attitude of the school towards practice teaching, and in forming the opinion of those in direction as to the value of such work. The principal of the model schools at one normal school declares, "We make no attempt to develop any skill in teaching;" at another, "This school probably holds rather a unique place among the normal schools of the country in that the academic work is emphasized here more strongly than any other." Both of these schools are situated in rural communities, where the ungraded district school is the type. They maintain model schools of from 300 to 500 pupils and enroll senior classes of normal students of from 400 to 750. In one of them the normal senior spends an hour a day for half a year or less in observation and practice, — a single room in the practice school having in one day from 20 to 30 different teachers. Yet nowhere did I find a better illustration of the value of practice teaching, even though conducted under such adverse conditions. I was urged to visit the practice department of this school by a graduate, now a teacher in another normal school, who after graduation had served as superintendent of schools, and who declared that his experience with teachers showed that those who took even this amount of practice gained something no amount of theory could give.

That the normal school should develop power to teach and to manage by giving opportunities to teach and to manage, and

that the demonstration of this power should be a requisite for graduation, is the belief, to judge belief by performance, only of those schools whose aim is strictly professional, where the entrance requirements are practically the same as those for college, — the city normal schools and the schools located in thickly populated communities and amid excellent graded school systems.

At DeKalb, Ill., the student spends an entire half day five times a week for two terms in observation and practice, being in charge of a room the entire second term. A general supervisor or critic is employed for each two rooms. If the student does not show in two terms the required amount of power in teaching and managing she is required to practice for three terms or longer. If she shows clearly that she cannot develop the power in a reasonable time she is dropped.

At Montclair, N. J., the plan is similar, practically that now in effect at Providence, R. I. Here the student practices the entire day five days in the week and for one half year. At DeKalb the practice schools are part of the normal school equipment. The schools used by the Montclair and Providence students are in scattered towns and cities in the vicinity. A critic is in charge of two or three rooms. The half year of practice is added to the two years of study at the normal school, making the course two and one half years.

At Chicago, until 1903 the course was three years. At that time the work in the normal school was limited to two years, to be followed by a third year of practice in the city schools on pay, at the end of which time a certificate to teach is granted and usually a regular appointment secured.

The New York normal schools, both State and city, are under State direction, and are required to give in their courses of two years, or about two thousand hours, six hundred hours of observation and practice. At Plattsburg the seniors spend three hours daily for an entire year in observation and practice, remaining five weeks in each of the eight grades. In Rochester and Greater New York the last half of the senior year is spent in practice, five hours a day for five days in the week. The preceding year and a half the students have observed about one half day a week, — in Brooklyn in the model schools connected

with the normal school, in Rochester in any of the city schools where good work is done. In Rochester the practice is in schools directly connected with the normal school. In Greater New York normal students who have completed a year and a half of work are assigned to the different public schools, where, under the direction of the masters, they serve as assistants and substitutes, being paid for the latter work. A force of visiting supervisors or critics is employed, each student in practice being visited about once in two weeks.

In Philadelphia an additional building of forty-eight rooms has just been turned over to the normal school to meet the increased demand for practice. It is proposed to put one critic in charge of two rooms, and have students practice from one quarter to one half of the senior year in full charge of rooms, the practice being preceded by observation extending over about a year and a half.

CONCLUSIONS.

In attempting from this knowledge to draw conclusions in regard to normal school education in Massachusetts, it is first necessary to determine to which class the Massachusetts normal schools belong.

We found that whether the work of a normal school was chiefly academic or chiefly professional depended largely upon the educational character of the community which it served. Students entered the Massachusetts normal schools when they were first established, about 1840, and for many years thereafter, with a scholarly preparation often not beyond that of children at the end of grade seven in our present city schools. At the end of the normal school course, and sometimes before, they went out to teach in the ungraded district schools which then constituted the majority of the schools of Massachusetts. In 1840 there were in the United States only 44 cities of 8,000 inhabitants and upwards. The typical school was the rural school. In 1905 there were in Massachusetts alone 48 such cities. Only about 10 per cent. of the population of the State is now found in smaller towns, and less than 5 per cent. of the pupils are now at school in one-room rural schools. The typical school in Massachusetts is the graded city school. Students are required to bring for admission to the normal schools

from four to six years more of scholarly training than was required in 1840, or for a long time after, — a different kind of student to prepare for a different kind of work.

Massachusetts is now facing the same problem as the city normal schools, — the professional schools.

What was the intention when the first Massachusetts normal schools were established? Governor Everett on Sept. 5, 1839, in his address at the opening of the State normal school at Barre (afterwards transferred to Westfield) outlined the normal school course under these three heads: “(1) Review of branches of knowledge to be taught in common schools. (2) Art of teaching. (3) School management,” and then added: “In the last place it is to be observed that in aid of all the instruction and exercises within the limits of the normal school, properly so called, there is to be established a common or district school as a *school of practice*, in which, under the direction of the principal of the school, the young teacher may have the benefit of *actual exercise* in the *business of instruction*.” Italics are mine.

The evident intention of the founders of the Massachusetts normal schools was that they should be professional schools in the sense in which the term “professional schools” is used in this report.

The Massachusetts normal schools were established as professional schools; they serve a community whose educational character demands professional schools for the training of teachers, and in keeping with these facts the Massachusetts State Board of Education declares: “The design of the normal schools is strictly professional; that is, to prepare in the best possible manner their pupils for the work of organizing, governing and teaching the public schools of the Commonwealth.”

Such a normal school should have under its direction and for the use of its students in observation and practice, a system of schools covering all the grades for which it trains teachers. The ideal plan would be to have one such set of schools for observation and another for practice; the former to be as nearly as possible *model* schools in size, equipment, etc., with each room in charge of a *model* teacher; the latter to consist of rooms, in number equal at least to one third the number of

students in the senior class, but small in number of pupils (preferably from 18 to 24), and with a supervisor in charge of each group of two or three rooms.

The normal student should observe work in all grades and in all subjects. The greater part of such observation should be directed and discussed, and the teacher with whom it is to be discussed should be present at the observation.

Normal students should come into direct contact with children from the very beginning of the course, not only in observation but also in practice teaching. The latter should begin with work with individuals, proceed to the oversight of small groups without other children in the room, and conclude with the full charge of the room all day, five days a week, for a sufficient number of weeks "to begin the formation of the teaching habit, and to realize the obstacles and to adopt or originate methods of surmounting them." The normal school diploma should mean that the graduate has not only met the requirements of personality and scholarship, but has demonstrated her ability to manage and to teach.

Every teacher in the normal school, from the principal down, should come constantly into contact with children, and should occasionally teach classes of children. There should be no teacher in the normal school who does not work also in the model and practice schools, and, *vice versa*, there should be no teacher in the model and practice schools who does not do some work with normal students.

When we consider the briefness of the teaching career of the normal graduate, an average of less than ten years, and the inadequateness of the average salary, it does not seem wise to extend the elementary course beyond two years. It might be wise to shorten it to one year for those who are to teach in the smaller rural schools, — not of course because such teachers do not need a better preparation, but because the communities will not pay for it.

The schools of Massachusetts required last year about 1,500 new teachers, the nine State normal schools (omitting the normal art school) graduated 539. Notwithstanding the fact that the State furnishes normal school education free, and has located a normal school at almost every door, yet the number

graduating annually from these schools is only about one third of the number of new teachers annually needed in the State. It is evident that the possession of a normal school diploma does not yet mean enough to induce a sufficient number to undertake the normal school work. It may be made to mean more by making the work of the normal schools more "strictly professional," by seeking more directly to develop skill in teaching and in managing, by giving "the young teacher the benefit" of more "actual exercise in the business of instruction."

Respectfully submitted,

JOHN G. THOMPSON.

MARCH 2, 1909.

APPENDIX G.

AN OUTLINE IN

ELEMENTARY GEOMETRY.

PREPARED FOR USE IN STATE NORMAL SCHOOL, BRIDGEWATER, MASS.,
BY BRENELLE HUNT, PRINCIPAL STATE MODEL SCHOOL.

1908.

ELEMENTARY GEOMETRY.

INTRODUCTORY.

The following exercises in geometry have been selected to constitute a part of the mathematical work of the ninth grade. The selection of materials is for this particular grade, with no attempt to outline a course for schools whose conditions are radically different from our own.

An effort has been made to let the pupils see how the science of geometry has grown out of, and is necessitated by, man's daily life and work, in which he has found it necessary to construct and use certain definite forms, giving to each a description and a name. The construction and duplication of these forms in the industrial world necessitate the making of countless measurements and the computation of many required results.

The work is primarily mathematical, and it is the aim to present such objects to the class first as are best adapted to give the simple, vivid, mathematical concept. This is immediately followed by a study of its appearance in the material world about us, supplemented by such practice in measuring, computing and constructing as will render the child's mathematical knowledge practical and valuable.

Applications are multiplied sufficiently to insure constant suggestion of mathematical facts by his daily surroundings, and a consequent appreciation of geometry as an aid to man in constructing, strengthening and beautifying his buildings, and ministering in countless ways to his daily needs.

INTRODUCTORY EXERCISE.

Measure the length of your desk lid, stating the result exactly. The width. Where did you place your rule in each case? What were you really measuring?

Find the *area* of the top surface of the desk lid.

Can you tell me how great an angle is formed by the bottom of the desk and the side toward you, so that I could make one like it without seeing yours?

Can you find the *area* of the *side* of your desk?

Measure the inside dimensions of a table drawer. How many one-inch cubes would just fill it? Can you tell how many would just fill your desk?

Can you tell how many cubic inches of water your tumbler will hold?

The front of a business block is made of marble slabs shaped in a quarry a hundred miles away. What facts must be furnished by the builder to secure an exact fit at corners, windows and roof?

A series of walks (diagram by teacher) need reconcreting. The cost depends upon the number of square yards of surface to be covered. Mark the parts whose area you can compute accurately. Where are you unable to get the area?

Which of the above problems were you able to solve? Which were too difficult? These are only a few of the many things which carpenters, plumbers, machinists, engineers, stone workers and surveyors are called upon to do every day. The study of geometry enables us to do them easily and accurately. It also enables the scientist to construct his balloon, the naval officer to hit a target miles away, and the astronomer to measure the size of the planets.

DEFINITION OF GEOMETRY.

Geometry is the knowledge that has for its object the properties and relations of lines, angles, surfaces and volumes.

SOME FUNDAMENTAL IDEAS.

Matter. — Matter is anything which takes up room or occupies space.

Which of the following are matter? Air, water, shadow of a house, light, paint, color, electricity, gas.

Body. — A body is a limited portion of matter.

Space is the room which a body occupies and which is all around the body. How much of it is occupied?

Volume. — A volume is a limited portion of space. In what

do a body and its volume agree? differ? Classify the following: a brick, clay, contents of a box, iron, pencil, glass, tumbler, space within the tumbler.

Surface. — A surface is the limit of a volume. Kinds.

STUDY OF LINES.

A *line* is the limit of a surface.

KINDS.

A *straight line* is one which has the same direction throughout.

A *curved line* is a line no part of which is straight.

PRACTICE.

Specify accurately certain *lines* in the schoolroom.

Estimate their length in convenient units. *Measure* each and give results in *proper* units (English or metric), and specify *remainders* either in (a) units of lower order, (b) common fraction, (c) decimal fraction.

POSITIONS OF A LINE.

A line is *vertical* when it has the direction of a plumb line.

A line is *horizontal* when it has the direction of the surface of still water.

A line is *inclined* when it is neither vertical nor horizontal.

DISCUSSION AND PRACTICE.

Who uses the plumb line? Show how it may be used to test vertical lines in the room. Test horizontal surfaces by a spirit level.

RELATIVE POSITION OF TWO OR MORE LINES.

Lines are *parallel* when they have the same direction throughout.

Lines are *inclined* when one leans either toward or from the other.

Two lines are *perpendicular* when they differ in direction and one does not lean either toward or from the other.

MANUAL WORK.

Use the *marking gauge* and draw a line parallel to the edge of a board and one inch from it. Saw with a *ripsaw*. Try to do the same thing by using (1) a try-square and pencil; (2) a rule and pencil; (3) a pencil only.

CLASS-ROOM WORK.

Find how many points are necessary to determine the exact position of a line. Axiom.

Show how *perpendicular lines* may be tested by measurements, applying this axiom.

STUDY OF ANGLES.

(Practical work in measuring, constructing and applying is printed on pages following.)

Angle. — An angle is the difference in direction of two lines extending from a point, as measured by an arc connecting the lines and having for its center the point from which the lines extend; or,

The difference in direction of two planes extending from a line; or,

The difference in direction of three or more planes extending from a point.

KINDS OF ANGLES ACCORDING TO FORMATION.

A *line angle* is an angle formed by lines extending from a point.

The *sides* of an angle are the lines which form it.

The *vertex* of an angle is the point from which the lines or planes extend.

A *plane angle* is an angle formed by planes extending from a line or point.

A *diedral angle* is a plane angle formed by two planes extending from a line, and is measured by the line angle having its sides in the planes, perpendicular to the line from which they extend.

A *polyedral angle* is a plane angle formed by three or more

planes extending from a point, as measured by the dihedral angles formed by adjacent planes.

KINDS OF ANGLES ACCORDING TO SIZE.

A *right angle* is an angle formed by two lines extending perpendicularly from each other.

An *oblique angle* is an angle formed by two lines inclined either toward or from each other.

An *acute angle* is an oblique angle less than a right angle.

An *obtuse angle* is an oblique angle greater than a right angle.

A *convex angle* is an angle greater than two right angles.

A *concave angle* is an angle less than two right angles.

KINDS OF ANGLES ACCORDING TO RELATIVE POSITION.

Adjacent angles are angles which lie on the same side of one line and on the opposite side of another when the lines meet.

Opposite or vertical angles are angles which lie on opposite sides of each of two lines which intersect.

MEASURING ANGLES.

Mechanically. Carpenter. Mason.

Describe the *steel square* of the carpenter. Mark a board for sawing so as to give square corners. Test the marking and saw. Test the result.

Before sawing thick timber, mark guide lines down the front and back as well as across the top, to secure accurate results.

What is the *oblique* angle most frequently needed by wood workers? Examine the corners of your desk (inside) or corners of a picture frame. At what angle were the boards and mouldings sawed? How may this angle be obtained? Describe a *miter box*. What angles may be obtained by its use?

Using the miter box or square, mark and cut strips for a halving joint or an oblique halving joint.

Using a carpenter's *bevel*, measure any angle found on a triangular (or other) prism. Compare with other angles. By means of the bevel make an exact drawing of the various angles. Measure the angles about the basement staircase with bevel;

mark board for flooring and saw to fit this angle. Make rule and bevel measurements and make a pattern of the side of your desk.

Geometrical and Numerical Measures.

The architect, draughtsman or surveyor may wish to specify orally or in writing the exact size of an angle. In order to do this, there must be some unit of measurement which others will understand.

Class exercise to show how the *arc* may be used to record increase or decrease in the *size* of any angle.

The *geometrical measure* of an angle is an *arc* included between its sides and having its center at the vertex. Class show that *any* such arc is the true measure of the angle.

A *degree* is $\frac{1}{360}$ of a circumference, and the *numerical measure* of an angle is the number of degrees in the *arc* which measures it.

Draughting. Measuring. Constructing. Estimating.

Show some plans and working drawings. Explain the importance of the draughtsman and his work. Teach the drawing, lettering and reading of angles. Draw measuring arcs with *compasses*.

Teach how to use a *protractor* in measuring any given angle.

By means of the protractor construct angles of any given size.

Measure the angles in the wooden triangles which accompany the drawing kit. What do you find? Construct as many different angles by their use as possible.

To secure closer acquaintance with angles, give practice in *estimating* the size of given angles by comparing with the right angle as a standard of measurement. Test all estimates by subsequent measurement with the protractor.

The following terms are frequently used in geometry:—

The *complement* of an angle is the angle that remains after subtracting the given angle from one of 90° .

The *supplement* of an angle is the angle that remains after subtracting the given angle from one of 180° .

PROBLEMS IN CONSTRUCTION.

1. To bisect a given straight line without the aid of a rule.
2. To bisect a given arc.
3. To construct a line perpendicular to a given straight line.
 - (a) At the center.
 - (b) At or near the end.
 - (c) From a point without the line.
4. To draw a line parallel to a given line at a given distance from that line.
5. To construct a right angle.
6. To bisect a given angle.
7. To construct an angle of 60° , 30° , 15° , 45° , 120° , 105° .

Mechanical Method of constructing Specific Angles.

The *carpenter* or *cabinet maker* is frequently called upon to construct angles of certain number of degrees. Instead of using a protractor, as the draughtsman does, he uses the *2-foot folding rule* or the *steel square*.

Using a protractor, draw angles of 15° , 25° , 30° and 45° , with sides about 6 inches long. Open the folding rule and adjust carefully so that the *inner* edges coincide with the sides of the angle. Measure the distance between the inside corners of the two ends of the ruler. Make a table showing what distances would give the other angles. Mark a strip of board (or cardboard) by the use of the 2-foot rule for any of the above angles.

Illustrative Exercise.—Physicians have given much study to the proper slope of the top of school desks. A comfortable angle for *reading* is 40° to 45° from the horizontal; 15° to 30° are better angles for *writing*.

Make a scale drawing of side of a desk 17 inches long and 7 inches wide, with lid sloping at an angle of 15° . Use 2-foot rule in getting the proper angle. (The use of the steel square will be given further on.)

Importance of Angles in Architecture. Roofs.

Learn the meaning of the following terms as applied to roofs: *run, rise, apex, eaves, gable*. Draw to a scale of $\frac{1}{4}$ inch to 1 foot triangles which shall represent the gable ends of four great types of roofs. Consider the width of the building in each case as 20 feet.

Grecian — slope forms angle of from 12° to 16° with the *run*.

Roman — slope forms angle of from 23° to 24° with the *run*.

Gothic — slope forms angle of 60° with the *run*.

Elizabethan — slope forms angle of over 60° with the *run*.

Account for each of these types from climatic conditions.

Find as many of each type as possible in Bridgewater.

Make diagrams of the following *modern types* of roofs; study the angles of each, find advantages and disadvantages: *shed* roof, *gable* roof, *hip* roof, *gambrel* roof, *Mansard* roof.

STUDY OF SURFACES.

KINDS.

Explain how granite workers test the surfaces they are smoothing by many applications of a "straight-edge" (rule) in different directions. If the straight-edge touches the surface throughout its length wherever placed the surface is said to be *plane*. Test the lid of your desk, surface of blackboard, pane of glass. Observe the plasterer, landscape gardener and other workmen test surfaces.

A *plane surface* is such a surface that if *any* two points in it be connected by a straight line, that line will lie wholly in the surface.

A *curved surface* is a surface no part of which is plane.

POSITIONS OF A SURFACE.

A surface is *vertical* when it has the direction of a plumb line.

A surface is *horizontal* when it has the direction of the surface of still water. How are horizontal surfaces tested?

A surface is *inclined* when it is neither vertical nor horizontal.

RELATIVE POSITIONS OF SURFACES.

Two surfaces are *inclined* when one leans either toward or from the other.

Two surfaces are *perpendicular* when they differ in direction and one does not lean either toward or from the other.

Surfaces are *parallel* when they have the same direction.

PLANE FIGURES.

Definition (illustrate by Figures on the Blackboard). — A plane figure is a portion of a plane surface bounded by one or more lines.

Division according to Kind of Bounding Line.

A *rectilinear figure* is a plane figure bounded by straight lines.

These lines are called the *sides* of the figure.

A *curvilinear figure* is a plane figure bounded by one or more curved lines.

RECTILINEAR FIGURES.

Division according to Number of Sides.

A *triangle* is a rectilinear figure having three sides.

A *quadrilateral* is a rectilinear figure having four sides.

A *polygon* is a rectilinear figure having more than four sides.

DEFINITIONS OF PARTS OF FIGURES.

The *perimeter* of a figure is the sum of its sides.

Note. — Consecutive angles are the angles next to each other in a figure.

The *diagonal* of a figure is a straight line connecting the vertices of angles not consecutive.

The *base* of a figure is any side taken as the lower.

The *altitude* of a figure is the perpendicular distance from the base to the opposite side, or to the vertex of the opposite angle.

The *vertex* of a figure is the vertex of the angle opposite the base.

STUDY OF QUADRILATERALS.

VARIETIES FROM RELATIVE DIRECTION OF SIDES.

A *parallelogram* is a quadrilateral having its opposite sides parallel.

A *trapezoid* is a quadrilateral having only two sides parallel.

A *trapezium* is a quadrilateral having no two sides parallel.

VARIETIES OF PARALLELOGRAMS FROM SIZE OF ANGLES.

A *right-angled parallelogram* is a parallelogram having all its angles right angles.

An *oblique-angled parallelogram* is a parallelogram having all its angles oblique angles.

VARIETIES OF RIGHT-ANGLED PARALLELOGRAMS FROM RELATIVE LENGTH OF SIDES.

A *square* is a right-angled parallelogram having its sides equal.

A *rectangle* is a right-angled parallelogram having only its opposite sides equal.

VARIETIES OF OBLIQUE-ANGLED PARALLELOGRAMS FROM RELATIVE LENGTH OF SIDES.

A *rhombus* is an oblique-angled parallelogram having its sides equal.

A *rhomboid* is an oblique-angled parallelogram having only its opposite sides equal.

DRILL. PRACTICAL APPLICATION. MANUAL WORK.

Rectangles.

Review (arithmetic) area of a rectangle. Explain the meaning and use of a mathematical formula. Write formula for area of a rectangle. Drill.

Pupils' measure available rectangular surfaces inside the building and out of doors. Compute the area of each in most appropriate surface units. (Illustration: desk, floor, light of glass, door space, walls of a room, schoolyard, concrete walk.)

Carpeting.

Diagram each step in every solution before doing any figuring. Use floor plans of houses drawn to scale and carpet several rooms in each.

Carpenters' Problems.

Pupils measure pieces of board, plank, joist, etc., and compute the number of *board feet* (B. M.) in each. All written solutions should be accompanied by a diagram of the piece of timber to be measured in order to help insure clear thinking.

Measure a bookcase in the schoolroom; write an order for the lumber needed to build it, specifying the kind of material, lengths desired, and total number of board feet. Compute the cost.

Some Interior Areas. Doors. Windows.

Learn names and uses of the various parts of a door. (Prang, Books IX.—X., pp. 215, 216.) Discuss the use of panels in door construction, different arrangement of panels, and styles of doors. Compute areas of parts.

Measure the windows of your schoolroom and write an order for light of glass, giving accurate specifications.

Measure and compute the total interior area of a box, drawer, or room, paying special attention to the method of expressing the steps in the solution.

Illustrative Problem. — How many square yards of plaster will it take to cover sides and ceiling of a room 16 by 20 feet and 11 feet high, having four windows 7 by 4 feet and three door spaces each 9 by 4 feet?

Work.

$$\text{Area of ceiling, } 16 \times 20 \text{ sq. ft.} = 320 \text{ sq. ft.}$$

$$\text{Total area of end walls, } 2 (11 \times 16 \text{ sq. ft.}) = 352 \text{ sq. ft.}$$

$$\text{Total area of side walls, } 2 (11 \times 20 \text{ sq. ft.}) = 440 \text{ sq. ft.}$$

$$\text{Total area} = 1,112 \text{ sq. ft.}$$

Areas to be deducted:—

$$\text{Windows, } 4 (4 \times 7 \text{ sq. ft.}) = 112 \text{ sq. ft.}$$

$$\text{Doors, } 3 (9 \times 4 \text{ sq. ft.}) = 108 \text{ sq. ft.}$$

$$\text{Total} = 220 \text{ sq. ft.}$$

$$1,112 \text{ sq. ft.}$$

$$\underline{220 \text{ sq. ft. deducted.}}$$

$$892 \text{ sq. ft. to be plastered.}$$

$$9 \text{ sq. ft.}) \underline{892} \text{ sq. ft.}$$

$$99\frac{1}{9}$$

Answer: $99\frac{1}{9}$ sq. yds.

Rhombus, Rhomboid and Trapezoid.

Class, equipped with cardboard, rule and scissors, work out the area of a rhombus, rhomboid and trapezoid. Express the area of each by a formula.

Many surfaces in building, concreting and tiling are in one or another of the above shapes. Give practice in making *first hand measurements* of the actual surfaces wherever possible, or scale drawings of them.

STUDY OF TRIANGLES.

KINDS ACCORDING TO RELATIVE LENGTH OF SIDES.

A *scalene triangle* is a triangle having its sides unequal.

An *isoscles triangle* is a triangle having only two sides equal.

An *equilateral triangle* is a triangle having its sides equal.

KINDS ACCORDING TO DIFFERENT ANGLES.

A *right-angled triangle* is a triangle having one right angle.

An *obtuse-angled triangle* is a triangle having one obtuse angle.

An *acute-angled triangle* is a triangle having all its angles acute.

An *equiangular triangle* is a triangle having its angles equal.

MEASUREMENTS. AREAS. INTERIOR ANGLES. MISCELLANEOUS APPLICATIONS.

Area of Triangles. — Class demonstrate by drawing, cutting and superposition that the area of any triangle equals one half that of a rectangle of the same base and altitude. Express the area of each of the three following triangles by the most convenient formula: (a) base 15 inches, altitude 8 inches; (b) base 16 inches, altitude 9 inches; (c) base 17 inches, altitude 9 inches.

Oral drill. Written problems.

Measuring and Sawing Small Triangles.

Make necessary measurements of a corner shelf, wooden bracket or other available triangular surfaces. Draw full size

(or to scale) on paper. Tell length and width of board from which this could be cut most economically. Use try-square, make necessary drawing and saw the required triangle. How many board feet used? How many wasted?

Larger Triangles — Gables.

Make a scale drawing of gables or other triangular surfaces from description. Compute the area in board feet. There is some waste in boarding-in a gable. Why? Builders in making estimates add 10 per cent. or more to the number of board feet actually required.

“Pitch” of Roofs.

All gable roofs are not alike. They differ considerably in “pitch.” Draw to scale five triangles representing as many gables. Consider the width of each building as 30 feet and the ridgepole in the center.

Roof No. 1 is $\frac{1}{2}$ pitch (1 foot rise to 1 foot run).

Roof No. 2 is $\frac{1}{3}$ pitch (2 feet rise to 3 feet run).

Roof No. 3 is $\frac{1}{4}$ pitch (18 inches rise to 3 feet run).

Roof No. 4 is $\frac{1}{5}$ pitch (18 inches rise to $3\frac{3}{4}$ feet run).

Roof No. 5 is $\frac{1}{6}$ pitch (1 foot rise to 3 feet run).

Have the class discover where the fractions $\frac{1}{2}$, $\frac{1}{3}$, etc., come from in each of the above descriptions and learn a simple and easily remembered way of describing a roof of any specified pitch.

Measure the angles in each triangle. Find the sum in each case. What is true of the sum of the interior angles of a triangle?

Compute the exact area of each gable. Estimate 10 per cent. more for waste and give cost of boarding-in the two gables of each house at \$26 per M.

Which of the rectilinear figures which we have studied are most helpful in computing the areas of front or side elevations of houses having *shed*, *gambrel*, *hip* or *Mansard* roofs, A windows or dormer windows? Diagram various elevations and let class compute areas and cost of boarding.

Practical Problems in Roof Construction.

Given the width of building and height of ridgepole, from which can be obtained the "run" and "rise" of the roof, how long shall we saw the rafters? At what angle shall we cut the rafters? At what angle shall we saw the ends of gable boards?

Mechanical Method. — The carpenter gets all of these things by using his steel square and 2-foot rule, which are always at hand.

Exercise No. 1. — Hold a square with the long arm horizontal and the short arm vertical. What lines of a roof are here represented? If the run is 2 feet to every foot in the rise, a line representing the slope of the roof might connect what points on the short and long arms respectively of the square? Find other points which would give the same slope.

Lay the square on a board so that the further edge does connect these two points. Mark for sawing. (The other end of the rafter is cut the same way, except for a square cut to make it fit the "rafter plate.")

Exercise No. 2. — Hold the square as before. If the rise in the above roof is 8 feet and run 16 feet, what units might be used to indicate these dimensions on the proper arms of the square? Lay rule on so as to connect the 8-inch mark and 16-inch mark on short and long arms respectively. How many inches between those two points? Infer how long the rafter will be if no allowance is made for overhang.

Give other examples, using $\frac{1}{2}$ -inch as well as 1-inch units.

Computing Length of Rafters mathematically.

The architect, draughtsman or student computes this distance exactly. (Review or teach how to find the *hypotenuse* of a right-angled triangle.)

Practice finding lengths of rafters, diagonals, guy lines, ladders leaning against buildings, resultant motion lines, etc.

Out-door Measurements. Surveying.

House lots, farms and city blocks are frequently irregular and their angles have to be measured carefully by a surveyor.

Show how a simple *theodolite* may be constructed, and measure some out of door angles.

Study plan of an irregular city block. (Smith's Arithmetic, Book III.) Compute area of different lots; incidentally find what is true of sum of any two *adjacent* angles. How many is it necessary to *measure*?

Measure any two *opposite* or *vertical* angles. What is true? Show how this fact may be used to measure the distance between two points separated by water or other obstruction.

TRAPEZIUM. LAND MEASUREMENT. SAIL MAKING.

In addition to the above figures the *trapezium* and irregular rectilinear figures frequently require measurement (sails, farms, city lots, etc.). In the solution of problems use scale drawings or diagrams. Divide the figures into convenient triangles, rectangles or trapezoids; construct necessary altitudes and compute total areas.

KINDS OF POLYGONS ACCORDING TO NUMBER OF SIDES.

Polygons are named from the number of sides, as follows: *pentagon* (5 sides), *hexagon* (6), *heptagon* (7), *octagon* (8), *decagon* (10), *dodecagon* (12).

In addition, polygons are commonly spoken of as *regular* or *irregular*. *Regular* polygons are both equilateral and equiangular. Where found most commonly?

In computing areas how would you divide an *irregular* polygon?

How would your division of a *regular* polygon differ from this? Express such an area by means of a *formula*.

PROBLEMS IN CONSTRUCTION.

1. In any given triangle construct the "altitude line."
2. On a given base construct a triangle having the following base angles: 90° and 30° ; 75° and 45° ; 120° and 15° .
3. On a given base construct a square. Rectangle.
4. On a given base, with one given base angle, construct a rhombus. Rhomboid. Trapezoid.
5. Discover sum of interior angles of any quadrilateral.

6. Construct a line representing the altitude of any of the above figures.

(Other problems come conveniently after curvilinear figures.)

STUDY OF CURVILINEAR FIGURES.

CIRCLE.

A *circle* is a plane figure bounded by a curved line, all points of which are equally distant from a point within called the center.

The center of a circle is a point within the circle, equally distant from all points in the bounding line.

Lines of a Circle.

The *circumference* of a circle is the curved line which bounds it.

An *arc* is any portion of a circumference.

The *radius* is a straight line connecting the center with any point in the circumference. Plural of *radius* is radii.

The *diameter* is a straight line passing through the center and having its extremities in the circumference.

A *chord* is a straight line connecting the extremities of an arc.

A *secant* is a straight line cutting the circumference.

A *tangent* is a straight line touching the circumference.

Parts of a Circle.

A *semicircle* is a portion of a circle bounded by a diameter and half the circumference.

A *sector* is a portion of a circle bounded by two radii and the included arc.

A *quadrant* is a portion of a circle bounded by two radii perpendicular to each other and by the included arc.

A *segment* is a portion of a circle bounded by a chord and its arc.

A *ring* is a portion of a circle bounded by the circumferences of two circles having the same center.

Relative Positions of Two Circles.

Concentric.—Circles are concentric when they have the same center.

Eccentric.—Circles are eccentric when they have not the same center and one is within the other. If circles are eccentric their circumferences may or may not touch.

Circumferences intersecting.

ELLIPSE.

Definition.—An *ellipse* is a plane figure bounded by such a curved line that if from any point in it straight lines be drawn to two points within, called the foci, their sum will be a constant quantity.

The *foci* are two points within the ellipse, to which, if straight lines be drawn from any point in the bounding line, their sum will be a constant quantity.

The *center* is the middle point of a straight line connecting the foci.

The *curve* of an ellipse is the line which bounds it.

The *major axis* is a straight line passing through the foci, and having its extremities in the curve.

The *minor axis* is a straight line passing through the center perpendicular to the major axis, and having its extremities in the curve.

OVAL.

An *oval* is a plane figure having the form of the outline of an egg.

MEASUREMENTS. PRACTICAL APPLICATIONS. CONSTRUCTION.

Teach how to measure *diameters* of circular bodies (*a*) without calipers, (*b*) with calipers. Practical methods of measuring the *circumferences* of each of the above circular bodies. Pupils divide each circumference by its respective diameter to get the ratio. State result in good English; also express as a formula:—

$$\text{Circumference} = ?$$

$$\text{Radius} = ?$$

Teach method of computing area of a circle. Write formula for computing area when only diameter (or radius) is known, when only circumference is known.

Problems.

Compute the circumference of a *wheel* (bicycle, auto, car) of given diameter. How many revolutions in given distance? Principle of *cyclometer*.

Compute the area of *cross-sections of tubes* in radiator (inner and outer), water pipes, and tanks preliminary to finding *contents* and *radiating surfaces* later.

Find area of *arched windows* (rectangle + semicircle) of different dimensions. How much more light admitted by rectangular window of same height and width? Why latter used in schoolrooms?

The total window space in a schoolroom should be one fifth as much as the total floor space. Is it so in your schoolroom?

Certain city schoolrooms would require one fourth as much light as floor space. How many arched windows of certain dimension required? How many rectangular?

The Curves in Art.

Study pictures of Greek, Roman, Mohammedan and Gothic arches, doors, and columns. Find where the circle predominates. See if you can recognize any of the other curves. Diagram two or three Greek and Roman mouldings (ovolo, cavetto, scotia, etc.), as shown in the columns, to impress on class the beauty of the smallest detail and the painstaking care of the ancient workman.

PROBLEMS IN CONSTRUCTION.

1. Construct a circumference with (a) compasses, (b) string.
2. In a circle construct two diameters perpendicular to each other.
3. Divide the circumference into 4 equal parts; 8 equal parts.
4. Inscribe a square; octagon.

5. Circumscribe a square whose sides shall be perpendicular to the diagonals of an inscribed square.
6. Inscribe an equilateral triangle.
7. Inscribe a regular hexagon within a circle.
8. Inscribe a circle within a square.
9. Circumscribe a circle about a given square.
10. Construct a sector of 60° (sextant).
11. Construct a sector of 90° (quadrant).
12. Draw a line tangent to a given circle at the end of a given radius.
13. Find center of a given circle.
14. Find center of any given arc.
15. Circumscribe a circle about a given triangle.
16. Inscribe a circle in equilateral triangle, isosceles triangle, scalene triangle.

ELEMENTARY STUDY OF VOLUMES.

DIVISION ACCORDING TO BOUNDARY.

A *polyedron* is a volume bounded by rectilinear figures.

A *cylinder* is a volume bounded by two equal and parallel circles and by a curved surface extending perpendicularly from the circumference of one to the circumference of the other.

A *cone* is a volume having a circle for its base, and a curved surface tapering from the circumference of the base to a point directly above the center of the base.

A *sphere* is a perfectly round volume.

A *spheroid* is a volume resembling a sphere either flattened or elongated.

DIVISION OF POLYEDRONS ACCORDING TO RELATIVE SIZE OF FACES AND ANGLES.

A *regular polyedron* is a polyedron having equal and regular faces and equal diedral angles.

An *irregular polyedron* is a polyedron which does not have both equal and regular faces and equal diedral angles.

DIVISION OF IRREGULAR POLYEDRONS ACCORDING TO FORM AND
RELATIVE DIVISION OF FACES.

A *prism* is an irregular polyedron having two equal faces with their homologous sides parallel and the other faces parallelograms.

A *pyramid* is an irregular polyedron having a rectilinear figure for its base and the other faces triangles meeting at a point.

Study the appearance of these forms in nature (see crystals of quartz, amethyst, calcite, dog-tooth spar, garnet, tourmaline).

Study some famous buildings to help class appreciate how the prism, cylinder, pyramid and cone have been applied by different nations in their architecture. Advantages of prism, pyramid, cylinder, or cone in feudal castles, cathedrals, minarets, etc.

PARTS AND DIMENSIONS.

Base of cone or pyramid.

Bases of cylinder or prism.

Convex surface of prism or pyramid is sum of lateral sides.

Convex surface of cylinder or cone is the curved surface.

Altitude of each is perpendicular distance from base to opposite face or vertex. How measured? Distinguish between *altitude* and slant height of pyramid or cone.

A *truncated pyramid or cone* is a portion included between the base and any plane made by cutting the volume through the convex surface.

A *frustum of a pyramid or cone* is a portion included between the base and a plane made by cutting the volume through its convex surface *parallel to the base*.

MEASUREMENTS AND PRACTICAL APPLICATIONS.

Measurements. — Teach method of making accurate measurements of all dimensions necessary in order to compute area of bases, convex surfaces, or cubical contents. Use first the models, then such applications as convenient.

External Areas of Volumes. — Review method of finding areas of circles, regular polygons, etc. Cut sheet of paper and

fit about the models so as to discover what the convex surfaces equal.

Find the approximate radiating surface of a wood stove, pipes in steam radiator or stove pipe. Compute amount of tin necessary to make tin fruit cans and approximate cost of same, also approximate amount of sheet iron or galvanized iron necessary to construct certain stove pipes, ventilating flues, ash-barrels, circular baking tins, lamp shades, funnels and milk cans.

Cubical Contents.

Teach method of finding contents of prisms. Apply in finding *capacity of bins and cars* in cubic feet or bushels. Compute volume of air in schoolroom, amount per pupil and various related problems of hygiene.

Measure gas, water and steam pipes (inside dimensions), compute contents, weight and pressure. Contents of cylindrical oil tanks, hot-water tanks, fruit and paint cans. These may be in cubic inches, cubic feet or gallons.

RATIO AND PROPORTION. SIMPLE APPLICATIONS.

RATIO.

Divide the length of the desk lid by its width. What does the quotient show? Divide the length of a blackboard slate by its width. What does the quotient show? What does the quotient show in each of the following: divide area of blackboard slate by area of desk lid; perimeter of rectangle by length of base; altitude of a triangle by its base, etc.

The *ratio* of two numbers is the quotient obtained by dividing one number by the other.

Expressions of ratio: $6 \div 3$, $6 : 3$, $\frac{6}{3}$.

COMPARISON OF RATIOS.

(a) 4 : 5	(d) 5 : 30	(g) 8 : 10	(j) 24 : 8
(b) 3 : 1	(e) 2 : 3	(h) 40 : 16	(k) 8 : 12
(c) 1 : 6	(f) 5 : 2	(i) 30 : 10	(l) 10 : 4

Which of the above ratios is greater: *a* or *f*, *h* or *i*, *i* or *l*?
Which is less: *c* or *e*, *h* or *j*, *f* or *g*?

Find any two ratios which are equal; *i.e.*, have the relation of *equality*. If two ratios have this relation, they may be written as follows: $6:3 = 22:11$. Such a statement is called a *proportion*.

A *proportion* is an equality of ratios.

The terms are called first, second, third and fourth terms; the first and fourth are called *extremes*; the second and third are called *means*.

In several true proportions compare the product of the means and the product of the extremes. Infer how any one missing term might be found if the other three were given. Examples for practice.

SIMILAR TRIANGLES.

Review definition of similar figures.

Exercise. — Draw a 4-inch horizontal line ($a b$); at b erect a perpendicular ($b c$) 3 inches long. Connect a and c by a straight line ($a c$), which should be how long? Divide the base line into 1-inch lengths, erecting a perpendicular at each point. Observe that we have now four different triangles. Letter for convenience in discussing.

Compare the angles of any one with corresponding angles of any of the others.

What is the ratio of the base to altitude of any one of the triangles? Compare with any other. What is the ratio of the base to hypotenuse?

Compare the ratio of base of smallest to base of largest with the ratio of altitude of smallest to altitude of largest, etc. What kind of triangles are these? Why?

Given base and altitude of one of two similar triangles and base only of the other, how may the altitude be found? Other examples.

Practice in estimating Height of Buildings, Trees, etc.

Fix a 7-foot pole on a base so that it will stand in a vertical position; fix a 4-foot pole in the same way. In schoolroom or hall place these poles so that in sighting from the top of the 4 foot to the top of the 7 foot you can just see the top of one wall of the room. Make a careful diagram showing how the real and imaginary lines make two similar triangles. (Sight

line = hypotenuse. Horizontal line 4 feet from floor = base.) What distance must be added to the altitude of the larger triangle to give the height of the room? Use the measurements which correspond to the dimensions in the following proportion, and compute the altitude of the large triangle: —

$$b : a = B : A.$$

Similarly estimate the height of a telephone pole, roof, steeple, trees, etc.

The same principles may be applied by measuring the shadows cast at a certain hour by two vertical bodies.

Estimating Distance between Points on Level.

Make a large protractor on cardboard; paste or tack on to thin board, and mount on pole or camera tripod. Two wire nails driven in either end of base line of protractor will serve as sights. A strip of wood (or hollow curtain rod) may be fastened to center of protractor so as to turn easily in any direction. Here we have a simple instrument for reading out-of-door angles approximately.

Problem. — To measure length of Campus pond.

Method. — Two poles (a and b) 80 to 100 feet apart will indicate the base line of the triangle, one of them (a) being placed at one extremity of the pond. A third pole (c) is held at the other extremity of the pond. Imaginary lines connecting a and b , b and c , c and a give us the triangle to be measured, the line $b c$ being the length of the pond.

Place instrument at either end of base line successively, sight the pole (c) and read the angles. Class make sketch on pad and mark size of angle and length of base line. Return to schoolroom, and construct with rule and protractor a triangle *similar* to the one just measured, drawing to scale of $\frac{1}{16}$ inch to 1 foot. Measure the side $b c$ in $\frac{1}{16}$ -inch units, change to feet and we have the length of the pond. This may be verified by using a different base line and proceeding as before.



APPENDIX H.

REPORT ON SPECIAL SCHOOLS FOR DEAF,
BLIND AND FEEBLE-MINDED.

COMPILED BY

JOHN T. PRINCE, AGENT OF THE BOARD.



SPECIAL SCHOOLS.

In accordance with the provisions of chapters 39 and 87 of the Revised Laws and chapter 446 of the Acts and Resolves of 1904, the Commonwealth provides for the care of children who, on account of their physical or mental condition, are unable to attend the public schools. The institutions to which these children are sent are as follows:—

1. The American School at Hartford, Conn., for the Deaf, JOB WILLIAMS, L.H.D., Principal.
2. The Clarke School for the Deaf, Northampton, Miss CAROLINE A. YALE, Principal.
3. Horace Mann School for the Deaf, Boston, Miss SARAH FULLER, Principal.
4. Sarah Fuller Home for Little Deaf Children, Medford, Miss ELIZA L. CLARK, Matron and Principal.
5. New England Industrial School for Deaf Mutes, Beverly, Miss MARTHA O. BOCKÉE, Superintendent.
6. The Boston School for the Deaf, Randolph, THOMAS MAGENNIS, Superintendent.
7. Perkins Institution and Massachusetts School for the Blind, Boston, EDWARD E. ALLEN, Director.
8. Massachusetts School for the Feeble-minded, Waltham, Dr. WALTER E. FERNALD, Superintendent.
9. Massachusetts Hospital School (for Crippled and Deformed Children), Canton, Dr. JOHN E. FISH, Superintendent.

THE AMERICAN SCHOOL FOR THE DEAF.

REPORT OF JOB WILLIAMS, PRINCIPAL.

To the Board of Education.

The whole number of pupils under instruction during the year was 161,—101 boys and 60 girls. Of these, 54—35 boys and 19 girls—were from Massachusetts. No class graduated at the end of the year, but 18 pupils—15 boys and 3 girls—terminated their connection with the school. Eleven of these—10 boys and 1 girl—were Massachusetts pupils.

Six of the 10 boys left to go to work; the other 4 for various reasons.

Not a few parents fail to appreciate the educational advantages freely offered to their children by the State. They appear to think that if they have learned to express their ordinary wants in intelligible though defective English, and have acquired a little knowledge of numbers, they are qualified to take up life's duties and help support the family. They do not realize that two or three more years in school would be doubly valuable to them. It is the same difficulty that is met with everywhere in the public schools.

Another thing to be contended with is the constant pressure to get children into school too young. Many applications are received to have children admitted at five years of age, and some still younger. Deaf children are not as mature as hearing children of the same age. At five years of age they are not able either mentally or physically to do the work which ought to be done in the first year at school; so they are apt to get into bad habits of mind. It will be far better for them in the end to start a year or two later, work more vigorously, form better habits of study and get better results.

The past year was a prosperous one. Good progress was made in the various studies in the schoolroom, including speech and lip reading. Increased skill was acquired in sloyd work and cabinet making by the boys and in cooking and dressmaking by the girls, and at the end of the school year there was a very creditable exhibition of finished work.

THE CLARKE SCHOOL FOR THE DEAF, NORTHAMPTON.

REPORT FOR THE CORPORATION.

To the State Board of Education.

The number of pupils enrolled in the Clarke School for the Deaf during the past year has been 150. Of these, 108 were supported by the State of Massachusetts, 11 by the State of Vermont, 6 by New Hampshire, and there were 25 paying pupils. The health of the school has been usually good, and the work has been prosecuted with the ordinary success. Two pupils were graduated from the school in June.

The normal pupils numbered 10, and all of them have easily secured positions in good schools. Thus for two or three years the beneficent influence of this foundation has been widely extended, and, if the normal training could be continued, would be strongly felt in time in every State in the Republic.

The subject which has been uppermost in the minds of the corporators since the American Association for the Promotion of Teaching of Speech to the Deaf asked the Clarke School to establish a class for the training of teachers, in connection with its ordinary work, has been the need of enlarged facilities, especially for the class-room instruction of the school. The hope that individual benefactors would perceive our needs and come to our assistance has thus far been disappointed. Can the State, which has profited so largely by our endowment and plant, afford to allow the school to abandon the normal training, or permit the pupils and teachers in the school longer to suffer under the limitations which make the daily work difficult? The hundreds of thousands of dollars from the income of the fund and the interest on the plant during the last forty years, devoted to the training of hundreds of pupils and scores of teachers, for which no recompense has been received, constitute a standing and just claim on the gratitude of this Commonwealth. . . .

With the increasing cost of personal service and foodstuffs, with the readiness existing on the part of State institutions to entice our trained teachers away, and the consequent necessity of raising salaries to keep up our standards, the expenses of the school are constantly growing greater. The deficit for the past year amounts to \$3,661.72. The corporators think that the time has come when the State, whether aiding us in the matter of a building or not, should pay the entire cost for each pupil for instruction and keeping. That cost has been this year a little over \$400. If the State had paid this year that amount for each of its wards, our receipts from the treasury of the Commonwealth would have been nearly \$12,000 more than they were. What reason is there why this corporation, which has turned in for many years \$15,000 (it has averaged more than that amount) toward the training of Massachusetts pupils, should continue indefinitely to relieve the wealthy State

of Massachusetts from paying the full cost of every pupil's maintenance and training? We would gladly accept, as at present, three fourths of the annual cost as payment in full if we were able, but it is time now that for the constantly arising needs of the school there should be a margin of income which could be used to supply these needs. It is probable if the uniform rate of tuition were fixed at \$400, pupils from other States might be less numerous, but if it is just, as it surely is, that Massachusetts should pay us approximately what each pupil costs, it would certainly be right that other States should do the same. If the total number of pupils diminished somewhat, we should still have something of a remainder to meet constantly arising new expenses. If we had been able to reserve even half of the income of our fund for the last five years, we should have had the means of purchasing land, greatly needed for the expansion of the school. If we could keep permanently so much of a margin above our annual expenses, we should in the future have a sense of security for the meeting of such exigencies as we have never yet enjoyed. But without large and prompt aid, far beyond any increase of income, this noble work will continue to suffer for the lack of adequate rooms for its pupils, and must, for that reason, surrender the honor of conducting the first normal school established in this country for the training of oral teachers of the deaf.

Will the State of Massachusetts permit this condition to remain unremedied?

The corporation gratefully acknowledge a legacy of \$2,000 from the late Miss Augusta Wells of Hatfield. Such a gift brings the assurance that there are hearts keenly alive to the limitations and needs of our pupils and minds not insensible to the great work done in our school. All of which is respectfully submitted for the corporation.

FRANKLIN CARTER.

Extract from the Principal's Report to the Board of Corporators for the Year ending Aug. 31, 1908.

The number of pupils enrolled was 150. Of these, 49 were in the grammar department, 56 were in the intermediate department and 45 were in the primary. Of the whole number, 108 were admitted on

warrants issued by the Massachusetts Board of Education, 11 were sent here at the expense of the State of Vermont and 6 by New Hampshire; the remaining 25 were here at the expense of their friends. Of these last, 1 was from New Hampshire, 4 from New York, 1 from New Jersey, 4 from Ohio, 3 from Maryland, 1 from Pennsylvania, 2 from Indiana, 1 from Michigan, 2 from Colorado, 1 from Arizona, 3 from California, 1 from Canada, and 1 from Mexico.

The industrial work of the school deserves fuller recognition than we have sometimes given it. The boys of the intermediate grades have from three to five hours per week in the sloyd room under a thoroughly well-qualified teacher. The upper primary grades have two hours under the same instruction. A large amount of excellent work is done, and skill of hand and habits of exactness, perseverance and orderliness are formed. At the Christmas vacation, and at the close of the year, each boy is allowed to take home with him all the articles he has made. On entering the grammar school the boys leave the sloyd room and begin work in the cabinet shop, where they receive instruction ten hours per week. The tables, bookcases, desks, chiffoniers, sideboards and clock-cases made by the boys in ash, oak, cherry and mahogany are most creditable pieces of work. In most instances the boy who makes such an article takes it home, paying only for the cost of material used. This adds greatly to the zest with which the work is done, and, consequently, to the amount of real gain to the individual boy. A lesson each week is given in wood carving by a special teacher, and the pieces of carving become parts of articles made in the cabinet shop. The girls of the grammar department share in the instruction in wood carving and are also taught sewing and cooking.

The gymnasium work occupies for the older girls not less than three hours a week, while the older boys have additional time for basketball, bowling and athletic exercises. The intermediate classes have from two to three hours per week, while in the primary a short daily exercise is given each class in its schoolroom by the gymnasium instructor.

Two weeks before the close of the year in June the summer normal class began its work. There were 21 members present, representing 12 different States. All had had more or less experience in teaching the deaf, and came prepared for earnest work. The presence of some who had had long and successful experience in teaching added greatly to the interest of the class, but impressed upon us afresh the demand for more advanced work than is possible in a class of such varying knowledge and experience. Advanced work in phonetics and ear-training carried on through visible speech would be of great interest and value to such students. The time must soon come when a summer school will offer at least two courses of study,—one for those who have had but little experience in teaching and another for those who have studied more fully and have practised longer.

During the little more than twenty years of its existence there have been graduated from our normal class 113 students. Of these, 40 have taught for a longer or shorter period in our own school. Of the whole number, 20 have married, 8 have gone out of the work because of ill health or for other reasons and 2 have died. There are few States in the Union in which one or more of them have not taught, and 16 have eventually held some supervisory position, either that of principal of a school or teacher in charge of a department in one of the larger schools.

By special request the principal furnishes the following detailed account of the work of the school in industrial training:—

Realizing that the greatest needs of the deaf child are power of expression and communication, as well as fuller mental development, we have always kept the five hours of the school day intact for the acquisition of spoken and written language and the studies of the ordinary elementary school course, and have relegated so-called industrial work to the out-of-school hours, giving every child one or two hours each day of this training.

One of the advantages of a boarding school for a considerable percentage of our pupils is that boys and girls may, in the most natural way, engage in the multitudinous helpful activities of a systematically conducted household. Each child, according to his age and capacity, assists in the care of his own bedroom, and takes his small but regular share in the care of the common play rooms, sitting rooms, study and school rooms, while the older boys are responsible for the care of shops and gymnasium.

In the primary department—containing the two lower grades of the school and the preparatory class—the following exercises cover the work in hand training, occupying from two to three hours per week:—

Cultivation of touch,—form and vibration.

Bead-stringing.

Slat-weaving.

Winding.

Hand work preparatory to sewing and weaving.

Form work (outline and mass), using rice, lentils, beans, seeds and shells.

Freehand cutting.

Paper folding.

Drawing,—black and white and in color.

Clay modeling,—forms of fruits, vegetables, toys, beads, pottery.

Coloring clay work and forms cut freehand.

Paper construction, — boxes, baskets, articles of furniture.

Sloyd for the older boys in the department.

In the intermediate department, embracing grades from three to five inclusive:—

Drawing one hour per week.

Sloyd three to five hours per week for every boy.

Wood carving for a few of the older boys.

Cabinet work for a few of the older boys.

Sewing for girls, one hour per week.

In the grammar department the girls are taught:—

Drawing one hour per week.

Wood carving one hour per week.

Sewing—plain sewing, use of machine—two hours per week.

Cooking one hour per week.

The boys are taught:—

Drawing one hour per week.

Wood carving one hour per week.

Cabinet work one and one-half hours per day.

Each boy may—on payment of the cost of material—become the owner of the chair, table, desk, sideboard or clockcase which he has made. The policy of introducing a number of trades, and assigning a part of our boys to each, has seemed to us unwise for many reasons. We have judged it wiser to confine their industrial training to the use of a single material and that preferably wood. This training, added to the mental development which they gain, will prepare them to make a wise choice of occupation and fit them to succeed in it. Naturally, in a manufacturing State like this, many of our boys will take up the same work as that in which their fathers and brothers are engaged, and for which the skill of hand and eye and the habits of industry inculcated here will help to fit them.

HORACE MANN SCHOOL FOR THE DEAF, BOSTON.

MISS SARAH FULLER, PRINCIPAL.

REPORT OF MR. WALTER S. PARKER, ASSISTANT SUPERINTENDENT OF PUBLIC SCHOOLS, BOSTON.

To the State Board of Education.

The school year opened on Sept. 11, 1907, with 132 of its former pupils. During the year 26 pupils were admitted, 8 left the school and 1 died, making at the close of the year in June, 1908, 149 pupils. Seven boys and 1 girl, having com-

pleted the work as arranged for the eighth grade in the Boston public schools, were graduated in June. All of these pupils would gladly have taken advanced work had not the need of economy in the use of money in the school department prevented a contemplated plan for further instruction from being considered this year. Whenever a post-graduate course of study for the pupils of this school is arranged, it should be done with the approval and under the direction of the Board of Superintendents, in order to keep the pupils closely in touch with the studies and aims of their hearing brothers and sisters, and to stimulate ambition to be as well prepared as they to meet the demands of the business world when they must become self-supporting.

The Educational Association has not only continued to serve the school by weekly afternoon classes, but has generously given money to meet the cost of out-of-school instruction for a number of pupils needing individual help in one or more branches of study. The results of this timely aid have been most gratifying, being evident in an increased interest in class work and in a commendable desire to take higher rank in school.

Each year brings to this school pupils whose partial deafness has attracted little attention in the earliest grades of schools in which they have been placed unless it be to stamp them as dull, heavy, listless children, who should be relegated to schools for the mentally deficient. The size of classes and the lack of knowledge of varying conditions of deafness among children are explanations of this apparent injustice to partially deaf pupils, but to prevent an almost irrecoverable loss of school time for such pupils careful observations of "stupid ones" should be urged upon all persons who are preparing for work in elementary schools. Many instances could be cited of pupils whose admission to the Horace Mann School has been delayed, because of a misunderstanding of their needs, until the proper age for elementary work has been passed. Fortunately, no age limit debars them from the privileges freely offered by this school, and these, with the added help of out-of-school instruction provided by the Educational Association, enable them to acquire a rudimentary education.

The pupils in this school, from the lowest grade to the highest, justify the words of a writer upon the education of deaf children, who says:—

We do not believe the frequent poverty of the language used by the deaf to be due to any inherent *natural* deficiency of ideas or mental power. The success, often achieved by them, in the direction of art and skilled labor, in which their lack of language is no effectual bar to visible expression in form, color or mechanism, precludes the thought. And the fact that there are deaf persons quite capable, by intelligence and expression, of holding their own in the hearing world, justifies the belief expressed. If the intelligence of the deaf be developed in accordance with the fixed laws of mind, the quality of their language (not necessarily at any given age, for they have much to make up) may reasonably be expected to become such that they are able to express themselves without risk of misunderstanding. Any belief inspired by lower aims than this is not worthy of the purposes we have in view.

The whole system of our work must be made to conform, as nearly as it can, with the natural processes of the normal type, so that we may advance our pupils more nearly to the happiness of intellectual independence and self-help.

SARAH FULLER HOME FOR LITTLE DEAF CHILDREN,
MEDFORD.

FROM THE TWENTIETH ANNUAL REPORT OF THE EXECUTIVE COMMITTEE,
JUNE, 1908.

Twenty years have passed since Mrs. Francis Brooks founded this home for the care and instruction of deaf children of tender years. The results of the experiment of giving systematic training in visual speech at about the time when hearing children begin to speak have demonstrated its wisdom.

The home life of the school has had a most beneficial effect on the health, habits and manners of the children, and this, together with the constant discipline of their training, has in almost all cases strengthened their characters.

We are most fortunate in having the services of Miss Clark, the matron, and Miss Aymar, the teacher of articulation, for both have devoted themselves enthusiastically to their work, and have been rewarded by success in their efforts.

During the past year 14 children have been under the care of the home, 2 of these as day pupils. One of the day pupils has gone to Nova Scotia with her parents and 2 of the resident pupils have entered the Boston School at Randolph, Mass.

The home could give instruction to a larger number of day pupils, and the Board hopes that parents who wish to have their children benefit by its instruction will take up their residence in Medford.

Through the death of many of the early friends of the home our annual subscriptions have fallen off, and it is greatly to be desired that the number of such subscribers should be increased, so that we may be less dependent upon sporadic aid.

Our invested funds are somewhat over \$56,000, but to assure the permanency, or, at least, the full usefulness of this charity we should have a foundation of not less than \$75,000.

EDMUND M. WHEELWRIGHT.

NEW ENGLAND INDUSTRIAL SCHOOL FOR DEAF MUTES.

FROM THE REPORT OF THE TRUSTEES.

The management and maintenance of the school have continued during the past year without marked change of character. Minor changes are of course constantly necessary, and it is thought that in this way the efficiency of the school is being steadily advanced.

We are sorry to record the resignations of two of our teachers, Miss Mutch and Miss Bretz, both of whom had, by their experience in our school and their unremitting industry and care, reached a point of great usefulness. It will necessarily be some little time before their successors can make the readjustment quite complete. Incidentally it may be stated that both of these resignations were offered for private reasons, wholly unconnected with school matters.

For the last few years it has been apparent that the most pressing questions in future were likely to be of a financial nature. Much of our doubt in this direction has been dispelled by the announcement that under the will of Mrs. Julia M. Marsh, late of Boston, the school will receive a legacy of \$50,000.

The income only of this legacy will be available for our purposes, but this will be so considerable as to greatly relieve our necessities. The increased cost of living, which has been a matter of almost universal comment, and the general additions to our expenses, which result from our efforts to improve housing and maintenance conditions at the school, together with our efforts to broaden and perfect the course of instruction, all have tended steadily toward financial difficulties. Even the Marsh bequest will not enable us to accomplish many things which it has been for some time apparent ought to be accomplished. Certain repairs and alterations in our buildings are highly desirable, our present heating apparatus is antiquated and wasteful, and in the way of general teachers' equipment there is much which could be done to the great advantage of the school's work and condition. Progress can be made in these directions if the supporters of the school continue the interest and help which they have afforded us in the past. Our warmest gratitude is certainly due for the unexpected and generous gift to the school found in the will of Mrs. Marsh.

We take this our only opportunity officially to offer our thanks to the great number of people who have in countless ways helped make it possible for us to continue to carry on the work of the school, and give to the deaf mutes as many of the benefits of speech and hearing as it is possible for them to secure.

*Extract from the Annual Report of the Principal of the School,
December, 1908.*

There have been 31 pupils under instruction during the year, of whom 14 were boys and 17 were girls. The standard of health has in general been excellent, subject of course to the inevitable minor ailments, the single exception being a case of pneumonia. Dr. George J. Hill has given the school his professional services, and his care and attention have been of the greatest benefit. The services of Dr. E. B. Dudley in caring for the children's teeth, and of Dr. C. W. Haddock as oculist, have also been much appreciated. Mrs. William C. Loring has kindly offered to provide the glasses necessary in a number of cases.

The work in the schoolroom is of the same general nature as heretofore, although it becomes of course a little better regulated and productive of better results from year to year. Books suited to the tastes

and understanding of the pupils have been purchased as found necessary, and reading under the supervision of the teachers has been cultivated, in order that they may acquire the habit of reading, which is so valuable to the deaf.

The industrial classes are an important feature of the school work, as it is our aim to prepare the pupils for practical application, as well as to aid them in the matter of general intellectual training. Excellent progress has been made in the sloyd work, and during the short time when this was omitted the boys were successfully engaged in repairing and altering a quantity of furniture given the school by the Beverly Hospital Corporation. Instruction in shoe repairing has been gratuitously furnished by Mr. F. W. White, and three of the boys are now learning the trade. Good work has been done in caning chairs. The girls all receive regular instruction in sewing, the work being graded to suit their various abilities, and the result has been a very considerable volume of clothing, etc., of all sorts. Each of the older girls has finished one garment in hand embroidery.

BOSTON SCHOOL FOR THE DEAF, RANDOLPH.

FROM THE REPORT OF THE SUPERINTENDENT.

To the Massachusetts State Board of Education.

The ninth year of the Boston School for the Deaf, at Randolph, Mass., closed on June 17, 1908, with an attendance of 103 pupils, — 48 boys and 55 girls. The progress made by the pupils in all their studies was very satisfactory. The course of study is similar to that in all grammar schools. The health of the children is all that could be desired. The services of a doctor are seldom needed. We attribute this in a great measure to the large farm attached to the school, which gives plenty of room for outdoor exercise as well as an abundant supply of vegetables for the table. Our crop is large and varied, and seems to take the place of drugs in maintaining a remarkably high standard of good health. Peas and beans, radishes and lettuce, sweet corn, rhubarb, turnips, carrots, parsnips, beets, cabbages and potatoes, each served in its season and plentiful in supply, make the doctor's visits to the school few and far between. Hot and cold baths at frequent intervals also add to the condition of general good health.

The recreation ground is of many acres, and the boys and girls romp and play in the fields without any limit of area.

The Norroway Brook flows through the farm and gives a large and safe surface of ice for skating in winter. The hill on which the school is built furnishes a long and smooth coasting ground, and nearly every pupil has his own sled or shares the use of one with another. North Main Street, on which our property is situated, is a State road and is kept in good condition, and furnishes an opportunity for long walks in the spring and autumn seasons. The gymnasium in the school yard, with its ring-swings, seat-swings and ladders, develops the muscles of the arms and legs, and does its part in the physical development of the children. The military company, with its drill in marching and in the manual of arms, gives an agreeable variety of exercise to the 35 boys who form the company, whose evolutions call forth demonstrations of applause whenever they are given in public, as on Memorial Day.

The children thus live an out-of-door life, except when in the class room, the refectory and the dormitory. In fact, they leave the school at the close of the year in much better health than when they return to school after vacation. Combining thus both expert teaching in the class rooms and an abundance of exercise in the open air, we reach that much to be desired condition so often sought in vain in many schools, — a sound mind in a sound body. But even a sound mind and body do not of themselves make the perfect man or woman. They tend in that direction but need cultivation. Like trees and shrubs and plants and vegetables, everything else that grows needs to be directed to a proper end. We train the minds of these children that they may make good use of the knowledge given them. We train their bodies that they may be able to resist disease. In addition to this our great desire is to add to this mental and physical training the formation of a good character, which, after all, is the goal of all education. Success in this line makes education akin to creation in this, that it makes out of nothing an individual character that otherwise would remain undeveloped, — a character that properly guided is always good and progressive in goodness. To bring about this most desirable end, and to avoid the formation of a bad character or a tendency to it, a motive must be given, and children must be taught to be good through this motive. Excellence in study and the ac-

quisition of knowledge in the class room have no bearing on good conduct. In the school should be laid the foundation of a good Christian life if the boys and girls of to-day are to be Christian men and women of to-morrow. . . .

Necessarily the development of character is a slow process, especially with deaf children, but perhaps all the better for being slow because it is correspondingly sure. The process must be planned at the very beginning of school life. In the play room, at recreation in the yard, in the refectory, and wherever the children come together this most important part of their education must begin. An experience of nine years in educating deaf children has taught us that this system of character building perfects our course of study and makes it nearly all that could be desired. We do not hesitate to say that we have met with success. Our work has been a labor of love as well as one of duty, and this has, we believe, helped much to our success. Our children and teachers form one large happy family. The children are content. They have no time, and they have been so distracted with other busy things that there is no opportunity, to bewail or repine at their unhappy lot. They are as eager to study as to play. They are obedient to their teachers and they respect authority. They love their teachers and their teachers love them, and this mutual affection perhaps as much as any other one thing renders them amenable to discipline, progressive in knowledge and pliable in the formation of that character which is or should be the end and aim of all theories and methods of the education of children.

REPORT OF THE TREASURER.

Receipts.

State appropriation,	\$25,353 77
Donations,	235 04
Rents,	48 00
Miscellaneous,	11 82
Interest on deposit,	38 47
Advanced by treasurer,	10,000 00
Cash balance Oct. 1, 1907,	4,371 87
	<hr/>
	\$40,058 97

Expenses.

Maintenance of school,	\$11,096 80
Maintenance of property,	7,205 94
Property and miscellaneous payments,	9,054 50
	<hr/>
	\$27,357 24
Balance cash on hand June 30, 1908,	12,701 73
	<hr/>
	\$40,058 97

THOMAS MAGENNIS, *Treasurer.*

PERKINS INSTITUTION AND MASSACHUSETTS SCHOOL
FOR THE BLIND.

REPORT OF EDWARD E. ALLEN, DIRECTOR.

The leaven of the year has been the consciousness that the Perkins Institution would move at no distant day to its promised land. The trustees have secured as the new site for the school and its kindergarten department a thirty-two acre estate on the Charles River at Watertown, and they have received such money contributions towards the construction as would indicate that additional sums must be forthcoming.

The institution is likely to remain where it is for two or three years; but, even while waiting for complete reconstruction, there has been begun the building up of a new spirit through increased personal contact between director and pupil, as well as between pupil and teacher, the chief means being the director's talks to the school after morning assembly, private chats with the individual pupils, the installation of attractive yard apparatus for open-air play and an insistence that there shall be teacher leadership on the playgrounds as well as in the class rooms. In a word, the new emphasis is physical, mental and moral school hygiene.

Such emphasis means increased sympathy and co-operation, and it has meant just this in the Perkins Institution. Not only has no pupil been sent away for misconduct, but the usual penalties and punishment for rule breaking have most evidently lessened both in number and in severity. Of course they have;

they always will where there is true understanding between the teacher and the taught. Boys, for example, who usually give most trouble are in the middle adolescent stage. They have superabundant energy and don't know how to spend it. The correct policy with them is not repression but change and expansion of opportunity. The new invasion of the yards by swings, giant strides, trolley coasters and "Great Easterns" has not only drawn out of doors these very boys but has brought them from the dark halls and holes and lavatories of the present school building. The salutary effect of this sort of thing is self-evident. It is a recognition of the modern responsibility not only for correction but also for prevention.

The principal teachers have somewhat reformed the course of school studies. Much of the pure oral instruction necessitated by the dearth of text-books in a type tangible to all is being gradually supplanted by definite text-book study from already existing books in Braille, a large number of which have been purchased from the American Printing House for the Blind.

In line, too, with modern notions, the trustees have appointed attending dentists and a pediatrician for all departments of the school.

Following out the above principles, there have been made a few material changes at the upper school. For instance, the girls' dining rooms have been converted into sitting rooms, and they appear as dining rooms only at meal times. They have been furnished and brightened, to make them comparatively cheerful and attractive. The older boys have been entrusted with the use of a large room for their sitting room after school hours. This large space, which was heretofore only the "band room," has not been abused. Why should it be by young men who realize that it is to their interests and comfort to keep things tidy and quiet there? Adjustable desks and chairs have been put into the schoolrooms at the lower school at Jamaica Plain. To be sure these rooms now look more like schoolrooms than before, but it was seen that growing children needed school furniture that could be made to grow with them.

The music department of the whole school has been reorganized under a single head. The selective plan has been insti-

tuted, by which only those pupils who manifest ability for music are kept in the department. Instead of the time, energy and expense consuming school orchestra of 35 pieces there has been formed a mixed chorus of 70 voices; and if the value of such an organization is in proportion to the number taking part in it, then this chorus is of double the service which the orchestra was. It is believed to be of even greater value, directly and indirectly, because it frees hours for special work which the orchestra left no time for. Already some 20 children of the neighborhood go to the institution to receive free piano lessons from its advanced music students, who teach under the supervision of their own instructors. Inasmuch as practically every one of the graduates, who follows music for a livelihood, does so through teaching rather than through performing, it would seem as though a normal music course could scarcely be omitted from the scheme of practical instruction.

The other departments have kept on in pretty much the usual way, though perhaps most of them are working with renewed spirit. The library continues to circulate very many books to outside readers as well as inside. To feed the reading hunger of the outside or adult blind people, the Howe Memorial Press has this year printed in Braille a lot of short stories, issued these in small editions and turned them over to the library. Some 400, or about half the number of books issued by the library in June for summer reading, were of these short stories. The Howe Memorial Press will undertake more and more to serve as a supply house for appliances and reading needed by the blind of any age or station.

The four teachers who travel about to instruct and encourage the adult blind at their homes report a very successful year. The number of blind persons reached in this way is 216. Though this is a much needed work, and one in which the authorities of the institution are thoroughly interested, it is their feeling that it can be better and more economically conducted by the Massachusetts Commission for the Blind.

The three deaf-blind pupils have been continuing their work at the school as last year. All are interesting cases, only Thomas Stringer's case seeming to demand a change; there has been given to him this year not only a man teacher — Tom is

twenty-two years old — but a teacher who is deaf. There is no question that such a companion, if he is the right one, and Mr. Pinto seems to be such, may be extremely helpful. Mr. Pinto is young, athletic and enthusiastic, and if his pupil fails to improve greatly under such awakening treatment, it will not be the fault of the teacher. He is putting Tom in touch with the life of normal boys, — a life hitherto unknown to him.

Now it is comparatively easy to teach and train deaf-blind children since the way was shown by Dr. Howe and others. The serious and unanswered question seems to be, “What should be done with them after they have been educated as far as they can be at our schools?”

At the beginning of the present school year, Oct. 1, 1908, there were 327 blind persons connected with the Perkins Institution, representing a gain of 10 over the previous year. The number is made up as follows: —

Pupils in the boys' department,	86
Pupils in the girls' department,	89
Children in the kindergarten,	119
Teachers, officers and other employees,	13
Adults in the workshop,	20

Beneficiaries of Massachusetts: —

At the beginning of the year (Oct. 1, 1907),	185
Admitted during the year,	31
Transferred from another State,	1
Discharged during the year,	26
At the present time,	191

INSTRUCTION OF THE ADULT BLIND AT THEIR HOMES.

FROM THE REPORT OF THE TRUSTEES.

To the State Board of Education.

The work of teaching the adult blind in their own homes has been carried on along the general lines adopted at the outset. In the interests of greater economy the *local* plan has been introduced into the work this year. The State has been divided among the four teachers, so that each has a definite territory which does not in the least overlap that of another, both men

and women teachers giving instruction in all subjects to all the adult blind within the given district, whether men or women. Thus, Miss Garside teaches in Boston and all the adjoining towns and cities within a limited radius. Miss Hayes visits the entire southeastern portion of the State, with New Bedford, Fall River, Taunton and the adjoining country. Mr. Schuerer, with headquarters at Springfield, covers the whole of the western part of the Commonwealth, a territory which, though extensive, contains proportionately fewer blind people than does the eastern section. Mr. Vars takes the portion of Massachusetts north and east of Boston, extending as far west as Worcester and following the Blackstone River south to the Rhode Island line.

The women teachers have found no difficulty in mastering and teaching all the forms of handicraft required for their pupils of either sex, but the men are not equally successful in acquiring the feminine arts, and their work has at times been supplemented by aid from their women guides.

First and foremost come lessons in learning to read embossed print, — Moon's type for all those who do not seem to be equal to beginning with Braille, but Braille first or last, wherever practicable, on account of the larger variety of the material in that system.

With reading as a stepping-stone, the teachers encourage their pupils to go on and on from the simpler to the more complicated forms of handicraft, — knitting, crocheting, netting, basket making, whatever may serve to give pleasure to the worker and contribute, even if ever so little, to self-support, that most ardent desire of the blind. The sewing and knitting done by the women pupils should have special commendation. Many have learned to patch and darn, to hem and to make aprons and skirts by hand; and with the sewing machine, using hemmer, gauge and tucker, they have completed many kinds of useful articles. They have knitted face and dish cloths, reins, baby's jackets, hoods and skirts, sweaters, wristers, house and bed slippers of silk or worsted, shawls, fascinators, mittens and gloves. The amount of \$402.75 earned by the pupils the past year includes a goodly sum made by the women through their unaided efforts.

Those who once knew how to write are shown how to do so still by means of a pencil and a grooved board, which keeps the lines straight, or to write Braille on a Braille slate, or, where it can be afforded, the Braille writer. Any ordinary typewriter may be mastered by the blind, using the all-finger or touch method. This point of contact with the seeing world is a valuable one, and does much to help those who can own such an appliance to retain the normal interests of the community in which they live.

The teachers have also at times given encouragement, suggestion or even instruction in the performance of household duties, and, indeed, in every way have sought to inspire in their pupils a desire to enter freely into the life around them.

On several occasions the instructors have turned aside from their beaten paths to take up the very important task of addressing some organization whose members are desirous of knowing about this work.

The management of the Perkins Institution has been glad to add to its educational work this means of service to the adult blind; but, whereas, since its inauguration, there has been established an organization for the direct benefit of the adult blind, the Massachusetts Commission for the Blind, it seems to us that this branch of work belongs properly to that body; and the commission, sharing our views, has generously come forward with an offer to accept the responsibility of this undertaking in its present scope and continue the mission of hopefulness to adult pupils which is now being carried to them by this means. Therefore it is probable that we shall take such measures during the present session of the State Legislature as we trust may effect the transference of this work to the Massachusetts Commission for the Blind.

The names and addresses of the teachers are as follows: Miss Lillian R. Garside, No. 4 Burroughs Place, Boston; Miss Lydia Y. Hayes, Orleans; Mr. Edward Schuerer, No. 15 Wariner Avenue, Springfield; Mr. John Vars, No. 72 Huntington Avenue, Boston.

Statistics. — Number of blind persons visited, 89; number taught, 82; number refusing instruction, 7; number enrolled Nov. 1, 1908, 104. Number receiving instruction: in the several

systems of reading, 73; writing, 22; geography, 1; spelling, 1; manual alphabet, 1; simple gymnastics, 2; musical Braille, 1; tuning pianofortes, 1; sewing, 22; knitting, 21; netting, 2; tatting, 1; use of the sewing machine, 4; basketry, 4; reseating chairs with cane or pith, 24; braiding rugs, 1; dusting, 1; ironing, 1. Amount of money earned by the pupils, \$402.75. Summary of work done by the teachers: calls made, 846; lessons given, 2,069; miles travelled, 43,336.

THE MASSACHUSETTS SCHOOL FOR THE FEEBLE-MINDED,
WALTHAM.

EXTRACTS FROM THE REPORT OF THE SUPERINTENDENT, DR. WALTER E.
FERNALD.

	Males.	Females.	Totals.
Number present Nov 30, 1907,	715	519	1,234
Admitted during the year,	187	94	281
School cases,	140	48	188
Custodial cases,	47	46	93
Whole number of cases during the year,	902	613	1,515
Discharged during the year,	126	54	180
Died during year,	17	7	24
Number present Nov. 30, 1908,	759	552	1,311
State patients,	121	128	249
City and town patients,	203	187	390
Private patients,	28	22	50
Massachusetts school beneficiaries,	368	183	551
New England beneficiaries,	31	27	58
Invested funds, supported by,	8	5	13
Daily average number of patients,	720	523	1,243
Number Nov. 30, 1908, at school,	578	552	1,130
Number present Nov. 30, 1908, at colony,	181	-	181
Applications during the year,	-	-	528

Of the admissions, 137 were young, improvable pupils; 53 males and 42 females were over fourteen years of age, — a large proportion of these adults being cases capable of much improvement; 28 were feeble physically and of the idiotic type; 15 were cases of spastic paralysis; 11 were of the Mongolian type of idiocy; 6 were insane and not feeble-minded; 5 were totally blind; 4 males were of the semi-insane criminal type; 4 boys had shown mania for setting fires; 4 were hydrocephalic; 2 were cases of sporadic cretinism; 1 was a case of pseudo-muscular hypertrophy; 1 was totally deaf. Some of the cases appeared in several of the above groups.

Of the 180 cases discharged during the year, 48 were kept at home by their friends for various reasons; 4 were kept at home to attend public school; 2 went to work for wages; 4 ran away and were not returned; in 4 cases the parents moved to another State; in 2 cases the family went to Europe; 1 was transferred to the new Maine school; 1 was discharged as insane and not feeble-minded.

Fifteen cases — 1 male and 14 females — were committed to insane hospitals. Six of these cases were admitted during the year, and were insane and not feeble-minded when admitted. The other cases illustrate the fact that the imbecile is very likely to develop quite typical forms of insanity as a part of his life history.

Sixty-two epileptics — 37 males and 25 females — were transferred to the State Hospital for Epileptics at Palmer by order of the State Board of Insanity. These epileptics, all over ten years of age, were difficult to classify with the feeble-minded, and their removal has greatly improved the classification of our patients. The epileptic patients themselves can be treated with much greater success in a hospital for epileptics.

Forty-five of the older boys were transferred to the Wrentham school by order of the State Board of Insanity. These boys were at once put to work assisting in the development of the new institution. . . .

The work of the school and training classes shows development and progress. An additional kindergartner has been added to the teaching staff, making better classification possible

Every child of school age is receiving the training which he seems to need.

The room formerly occupied by the hand work is now thoroughly and conveniently equipped for the training classes, with abundant equipment for the training of the special senses, color and form discrimination and hand training in great variety. Nearly all the school material in this department was made by our boys in the manual training room.

Especial attention is paid to finding a place in our community life where the graduates of the schools are given work in which the school training may be directly utilized and exercised. For instance, all the bedding, linen and clothing issued from our storerooms — thousands and thousands of individual pieces each year — is marked with pen and indelible ink by girls who were taught to write in our schoolrooms. Each of the kindergartners and class trainers has an efficient and happy assistant who is a graduate of the schools. One of these girls even assists with simple copying and clerical work in the office.

Physical training in the broadest sense will always be one of the most important means of improving the physical and mental condition of the feeble-minded. Every pupil of suitable age in the school receives regular physical training. Formal gymnastics, musical and rhythmical drill, military drill, the ordinary games of children, competitive games and athletic contests are used in great variety, under tactful and efficient direction.

In suitable weather much of this work is carried on outdoors. The new cinder running track on the athletic field is a valuable addition. The running races and other track events, and the baseball, football and basket-ball games, are eagerly contested, and do much to develop and interest our pupils. Even the larger girls have two baseball nines who play weekly games, with great enthusiasm.

The manual and handwork classes were transferred to the new manual training building at the beginning of the fall term. The boys' manual classes occupy the first floor. One room is devoted to sloyd; one to mattress and pillow making; one to actual making of useful articles of wood at separate benches; one to painting, brush making, sandpapering, net making, mat

making and cane seating; one to shoe repairing; and the "weave room" contains six hand looms, where the boys weave first-class crash for towels, and serviceable and attractive rag carpets. The convenient arrangement of separate tables and stock boxes for each industry greatly facilitates the systematic handling of the large numbers of boys who daily spend a short time at several of these occupations. This training is not for the brighter boys alone, but is successfully given to many boys who are not capable of strictly school work. As far as possible this manual training is directly applied towards the production of results which have practical intrinsic value. The needs of a large institution furnish an outlet for everything the boys make. The fact that the boy sees his handwork put to actual use is a most powerful incentive.

The second floor in the manual building is devoted to the girls' handwork classes. One large room makes a convenient domestic training room; one is a class room for teaching sewing; one has a spinning wheel, three knitting machines, three looms, tables for cutting, sewing and braiding rugs for rag carpets, a table for hand looms and a table for sewing braided rugs; another large room contains tables for separate classes in pillow lace making, basket making, knitting, crocheting, embroidery and fancy work, hooking rugs and a frame for net making. Each table is devoted to its particular industry, and holds the stock box for that industry, with the necessary materials, tools and appliances all ready for work. Each table is large enough to accommodate a class of twelve. The class comes in and is immediately put to work, with no time lost assembling material. A bulletin board on the wall at the head of each table or loom or machine shows the names of the pupils in each class, and the hour for that class. This organization permits a large number of pupils to receive the training, with no confusion and no loss of time. One class quietly follows another all day long. As with the boys, this hand training is applicable not only to the brighter pupils, but to many who will never be capable of being trained in the schoolrooms. The facilities afforded by this new building have enormously added to our power to develop our pupils.

In the domestic science room classes of girls receive accurate

instruction in ordinary housework. They are taught to wash dishes, to make a fire in the kitchen range, to brush the stove, to wash a potato, to properly boil or bake a potato, to prepare other vegetables, to cook a beefsteak or other meat, to make bread and even cake, to lay a table and to properly serve a meal. Some of the advanced classes will cook an entire dinner; one pupil builds the fire, one makes the soup, another cooks the vegetables, another the meat, dessert, etc.; one lays the table, and finally one waits on the table while the rest of the class sit down and enjoy the meal they have prepared. This class work is directly applied in the domestic economy of the school. The pupils who do the best work in the class room are promoted to apply their acquired skill in the various kitchens and dining rooms, to their very great pride and satisfaction. Some of them have developed a good deal of skill in simple cookery. Nearly all have ceased to regard kitchen work as mere drudgery.

THE MASSACHUSETTS HOSPITAL SCHOOL, CANTON.

EXTRACT FROM THE REPORT OF THE TRUSTEES.

It is gratifying to be able to report that, although the Hospital School has not been in operation a full year, the increasing number and the character of applicants for admission not only demonstrate the satisfactory nature of the institution, but indicate that the demand for accommodations will in time be greater than was at first thought probable. As many of the children asking for admission come from homes in which the parents are self-supporting wage-earners, and in some instances able to pay a moderate amount for the education of a crippled child, it is evident that if the benefits of the institution are to be given to these deserving cases, the school should be free, either in the rules of admission, the charge, the official record of the inmates, or in its discipline or management, from the character of a pauper institution. The school should be maintained and developed as a State industrial school of a special character, and as free from the stigma of pauperism as is State education from the reproach of a charity. It is a function of the Commonwealth.

In view of the demonstrated fact that city and town officials are very reluctant to assume or authorize the support of children in this school, even though such children may have a legal settlement in such city or town, and that even when such support is assumed the child thereby becomes a subject of city or town support, and in one sense a pauper, thus casting a shadow which is apt to continue over the child when it seeks an active part in the life of the world; and the further consideration that many parents of crippled children are so adverse to seeking public aid that they would sooner deprive their child of educational advantages, — the trustees suggest that the Legislature consider the advisability of State support and care for all children sent to the school, following the precedents of the Legislature heretofore adopted in reference to the insane and feeble-minded.

The State owes a duty to these children, who by reason of physical deformity are unable to receive proper education in the public schools, and yet are of sufficient intelligence so that under proper tutelage they can become self-supporting. It is for the Legislature to determine whether or not children whose parents are not able to pay for their proper care and tutelage should be cared for and educated at the school without in any way having cast over them the shadow of pauperism. . . .

Education. — The problem of education and industrial training of crippled children is regarded by the trustees of this institution as the most important part of its work until years of experience have demonstrated not only the wants of the cripples placed in a State institution, but also what occupations and training should be furnished in our community.

The experience gained in similar institutions elsewhere cannot be taken as an absolute guide in our community, as the demands of labor and the market vary considerably in our community from what exists in European centers. The Board of Trustees has left the educational problem for the present to develop along the lines which experience may show are likely to be most profitable. They have, however, provided for a primary education with the elements of industrial training, expecting to specialize at an early age, according to the degree of disability of the greater number of the inmates of the school,

and the possibilities of finding remunerative occupations for those graduating from the institutions.

As no children are admitted to the school unless, owing to the disability presented, education elsewhere is not obtainable, special conditions of hours of work are needed, and also suitable methods and hours of instruction. The character of play allowed, as well as the development or restraint of a play instinct, demands special consideration. The best selection of studies according to the condition and limited future life of the inmates is difficult, and can be determined definitely only after it has become evident from actual experience what are the most common disabilities among the children admitted, and in what occupations of life such disabilities offer the least impediment.

At present the children are furnished a primary school education, and in addition special instruction in sewing, in sloyd and elementary carpentry. Opportunities for work in cobbling and simple farm work are furnished. A more comprehensive system of industrial training with early specialization of children well grounded in the elements of education is contemplated by the trustees, now that its first working year has made clearer the demands which will be made upon the new institution.

FROM THE REPORT OF THE SUPERINTENDENT.

During the year 178 applications were received, and of this number 104 were admitted, — 70 boys and 34 girls. There were at the end of the year 87 children, — 60 boys and 27 girls, 1 boy being out on a visit, and 9 boys and 7 girls having been discharged. The maximum number at any one time was 90, and the daily average number, including the forty-five days period when there were no patients, was 48.5—. Of those discharged, 2 were capable of self-support, 2 were much improved, 8 were improved and 4 were not improved.

Many of our children are so badly crippled that their attendance at public school would be impossible, and all of them require an arrangement of school and recreation hours very different from that prescribed for normal children.

The great patience and sincere personal interest of those in charge of the several departments of the institution have enabled children whose health would permit to receive instruction

in various lines of practical work, including laundry and domestic work, sewing, cobbling, painting and carpentry. When thus usefully employed they are acquiring a breadth of elementary education which should enable us to determine into what special fields of labor their energies can profitably be directed later on. Steady progress has been made in the classes in sloyd, and boys who six months ago did not know the use of the simplest tool are now making really creditable articles, which they delight in showing to their friends as evidence of their advancement.

Of the 104 children admitted during the year, 61 were State, 28 town or city, and 15 private. While many of the public charges are doubtless made reimbursing cases by the towns and cities in which they are settled, it should be borne in mind that all such patients receive indirect support from the State in so far as the rate of \$3.25 per week is far below the actual cost of maintenance. There are many self-respecting parents of crippled children who have never received public aid, and are reluctant to appeal to the overseers of the poor for assistance; yet their own unassisted means are wholly inadequate to pay for the support of their unfortunate children away from home. Sometimes when they seek assistance they fail to receive it, as illustrated by the following case. A nine-year-old crippled girl, whose disability was such that the superintendent had requested her parents to remove her from the public schools, made application for admission to this school. The case was referred to the local board of the overseers of the poor, who refused to support the child at this institution, on the ground that the money at their disposal was not appropriated for educational purposes. This child could be supported at home by her father, but he realized that she was growing up in ignorance, without an inheritance of means to prevent her becoming a dependent in the future. I would suggest for your consideration this question of support, in the hope that the necessary steps may be taken so that children of this class may not be denied the education and care enjoyed by crippled pauper children.

Terms of Admission. — Crippled and deformed children of the Commonwealth between the ages of five and fifteen, who

are mentally competent to attend the public schools, are eligible for admission.

Feeble-minded and epileptic children will not be received.

Payments for the board of private patients must be made in advance, unless sufficient surety therefor is given.

The institution is located on Randolph Street in the town of Canton, about one eighth mile from the Blue Hill Street Railway and one and one half miles from Canton and Canton Junction stations on the New York, New Haven & Hartford Railroad.

Post-office address, Canton, Mass.

Applications for admission should be made to the superintendent.

APPENDIX I.

A LESSON FROM MEDICAL INSPECTION OF
SCHOOLS.

AN ADDRESS BEFORE THE AMERICAN SCHOOL HYGIENE
ASSOCIATION, CHICAGO, ILL., FEB. 24, 1909,

BY

GEORGE H. MARTIN, LITT.D.,
Secretary State Board of Education, Boston, Mass.



A LESSON FROM MEDICAL INSPECTION OF SCHOOLS.

Medical inspection of school children has been continued long enough and has become sufficiently widespread to justify some rather sweeping generalizations. No large group of children has ever been examined without finding numerous physical defects and disabilities, serious enough not only to affect their school work but to form a real handicap in their after efforts to secure a livelihood.

These results have been so universal as to warrant the assertion that a community which has not provided through its proper authorities for a thorough-going inspection of its schools is guilty of criminal negligence.

The aggregate amount of discomfort and pain experienced by school children is enough to awaken universal sympathy. The hindrances to school advancement and the consequent waste of effort and of money are matters of serious concern, but the ignorance which lies back of it all and causes it all is a matter of much greater moment.

When by school inspection it is discovered that of more than 400,000 children examined in the schools of Massachusetts 81,000 are defective in vision and 22,000 in hearing; when it is stated on reliable authority that 90 per cent. of the school children of Germany have defective teeth, and examination shows the same proportion in American towns; when 137 cases of adenoids are reported for a single city; when whole schools are infected with head-lice, — we get much new light on school problems, on the subject of backward children, and, perhaps, of delinquent children.

Then we consign the unfortunates to the care of the family physician, send them to the public dispensary or the public clinic, or send the school nurse to look after the cases in the

home, and by these means we patch up a few. Some glasses are provided, some teeth cleaned and filled, some adenoids removed, some heads shaved and petroleumized, and many children begin to know the joy of living.

All this is good. It is worth many times what it has cost. But is it enough? Have school people done all their duty when they have admitted the school physician and the school nurse to the sacred precincts of the schoolroom, when they have sent out the warning notices to the parents?

Supposing that all defects have been discovered and remedied, so that school life goes on without aches and pains. Must we go all over it next year and the next and forever? The Massachusetts law says that every child shall be examined annually for defects and disabilities. There is no statute of limitation. Is there any hope of limitation? Is there any mode of limitation? Or is the social mill to go on grinding out diseased and enfeebled children by the thousands indefinitely!

This is a more fundamental question than how we shall modify and adapt school work and school life to these defectives. That is an immediate and important question. But it deals only with symptoms, while it leaves the disease itself untouched. The disease is ignorance complicated by wilful neglect.

That the ignorance of the laws and conditions of health is less dense than it once was is undoubtedly true. The standard of intelligence in these matters has been slowly rising. When Horace Mann wrote his sixth report, in which he urged the necessity of instruction in physiology and hygiene, he satirized a school girl of the period:—

Shall a young miss of sixteen, elated with the idea that she is just finishing her education, study rhetoric, and analyze scraps of the speeches of Grecian and Roman orators, when she does not know that the fumes of burning coal will destroy life; and thinks, because she swallows her food and inhales her breath through her neck, that they both pass on to one common cavity in the chest, and hence concludes that respiration and digestion are functions of the same organ? Neither of the above is an imaginary or an extreme case.

Perhaps we are warranted in thinking that such school girls are not to be found.

When twenty years later Herbert Spencer sent out his book on education everybody knew that his gibes at the English country gentleman were based on facts, and that he might have included American gentlemen as well. He said:—

When the country gentleman has paid his daily visit to the stable, and personally inspected the condition and treatment of his horses; when he has glanced at his minor live stock and given directions about them; how often does he go up to the nursery and examine into its dietary, its hours, its ventilation?

The raising of first-rate bullocks is an occupation on which men of education willingly bestow much time, inquiry and thought. The bringing up of fine human beings is an occupation tacitly voted unworthy of their attention.

There is no doubt that more thought is being given to personal and domestic hygiene. There are more bath tubs and tooth brushes and clinical thermometers in family use; more family dietaries are prepared with regard to the laws of health; architects are more willing to make concessions in the matter of ventilation of public and private buildings. Wells for the family water supply are more remote from sink spouts and privies and barnyards. Communities are more critical as to their water supply and the disposal of their waste, and there is more belief in the necessity and efficiency of pure food laws.

That this improvement is general is shown by the reduction of the number of cases of diphtheria and typhoid fever and tuberculosis, — preventable diseases.

More hopeful still is the changed attitude of mind towards diseases. Some cobwebs of superstition have been brushed away and some theologic mists have been dispersed. Probably nowhere to-day, even in the churches which adhere most closely to the ancient formulas, would we hear the lines by Watts, found in all the old hymn books:—

Diseases are Thy servants, Lord;
They come at Thy command.¹

The educational forces by which this general uplift has come are many. The medical profession has devoted itself with the finest public spirit to the enlightenment of the people. The

¹ This hymn was marked "For Sickbed Devotions."

campaign against tuberculosis is a splendid example of the energy, the ingenuity and the self-sacrificing ardor of the doctors. The press has had a powerful influence in this direction. There are few magazines and few newspapers which do not discuss with great frequency, and, on the whole, with intelligence and force, questions which pertain to public and personal health. Discussions in women's clubs and parents' associations of various kinds have helped.

To all these must be added the influence of the public schools. Physiology and hygiene have been included in the curriculum of many schools for many years, and some of the instruction given has been well selected, well arranged and well presented. To this extent the schools are entitled to credit.

But when we have admitted all this, and congratulated ourselves upon the improvement, the disclosures made through medical inspection still confront us and call for action.

The lesson which I have learned is that, in addition to all the other forces making for a better understanding of health conditions, it is the imperative and immediate duty of the schools of all grades to broaden and make more vital their teaching of physiology and hygiene.

Compulsory laws exist in nearly all the States, making instruction in these subjects obligatory, but unfortunately the circumstances under which these laws were enacted left the conservative school people everywhere irritated and cold. The law in its purpose and scope was too narrow, limited as it was to the effects of alcohol and narcotics, and the methods prescribed in most States tended to make the work abortive.

The opportunity now exists, and the results of medical inspection furnish the argument, for a new propaganda in favor of health instruction. It should begin in the lowest grade, because the little children not only need to be taught how to care for themselves but how to care for children still younger. The majority of children of the poorer families, especially of the more recent foreign immigration, have the burden early laid on them of "minding the baby." The following facts are typical:—

In a class of fifty children, thirty have the daily care of younger children.

That such care is inevitable is shown by the fact that, in the families represented by these fifty children, thirty-four have four or more children.

The instruction here needs to be simple, direct and sympathetic, absolutely free from technical anatomy and technical physiology. To instruction should be added insistence upon practice, for the end sought is the early formation of right habits. The results of the right sort of teaching will not be found in answers to questions, but in clean hands, faces, teeth, bodies and clothes, in clear eyes and a responsive brain, in a frame erect and elastic, with all the signs of an abundant supply of good red blood. The teaching will also show itself in the luncheons the children bring and in the way they spend their pennies.

In the higher grades the same ends are to be sought, but the instruction should be less purely dogmatic, and knowledge of the organs of the body and their function should furnish a rational basis for hygienic rules. Anatomy should still be kept subordinate. The hygiene of the home and its relation to personal health should be taught. The personal habits of the pupils must still be an object of the teacher's care.

It ought not to be true in any school, as the reports of a school physician show was true in one set of schools, that the pupils in every grade up to the senior class in the high school had on an average four or more decayed and decaying teeth, and the teachers did not know it.

It ought to be said to all teachers and said with emphasis, "These things ought ye to have done at the risk of leaving some other things undone." We hear much about "essentials" in school education. A sound body kept sound by right living is the essential which underlies and conditions all the rest.

In the high schools now a most anomalous condition exists. Not only is physiology not included in the course of study in many high schools, but when it is included it is not required of college preparatory students. So that these people who are to represent the superlative culture of the times are left in ignorance of the means by which they acquire all their learning. They are expected to translate the maxim of Solon, *Γινῶθι σεαυτον* into "Know thyself," and never to obey it. The instruction

is less intelligent than that of Mr. Squeers: "Bottiney, noun substantive, a knowledge of plants. When he has learned that bottiney means a knowledge of plants, he goes and knows 'em."

No school system can justify itself if it fails to require as a major subject in high schools the study of human physiology. It should be so based on the other sciences and so correlated with them as to appeal to the intelligence of the most advanced students, and its relations to sociology should be shown through public hygiene to be so intimate as to fill it with genuine human interest.

Two hindrances have been found to the successful prosecution of this work in the schools. The text-books have been poor, and many of the teachers uninstructed. Text-books are improving and normal schools are making personal and school hygiene more prominent in their training. Much, however, remains to be done.

To-day the physicians, general and special, are more alive to the needs of the times than are the school people. No permanent results of the present agitation for better sanitary conditions, domestic and public, can be hoped for unless the schools co-operate with all the other agencies. The universal need is for a higher order of intelligence respecting all the things that make for health, and the foundation of such intelligence must be laid in the schools.

APPENDIX J.

COUNTY TRAINING SCHOOLS.



COUNTY TRAINING SCHOOLS.

There are at present 6 county training schools, for the commitment of habitual truants, absentees and school offenders. These schools are located as follows:—

COUNTY TRAINING SCHOOLS.	Location.	Superintendent.
Essex,	Lawrence,	W. Grant Fancher.
Hampden,	Springfield,	Erwin G. Ward.
Middlesex,	North Chelmsford,	M. A. Warren.
Norfolk, Bristol and Plymouth,	Walpole,	James H. Craig.
Suffolk ¹ (Boston Parental),	West Roxbury,	D. P. Dame.
Worcester,	Oakdale,	S. P. Streeter.

¹ Under the law commitments from Chelsea, Revere and Winthrop in Suffolk County must be to the training school for the county of Middlesex.

The counties of Barnstable, Berkshire, Dukes, Franklin, Hampshire and Nantucket are exempted by law from maintaining training schools of their own, but the county commissioners of each of these counties are required to assign an established training school as a place of commitment for habitual truants, absentees and school offenders. The places designated by the several commissioners are as follows:—

COUNTY.	Location of assigned training school.	COUNTY.	Location of assigned training school.
Barnstable,	Walpole.	Franklin,	North Chelmsford.
Berkshire,	Springfield.	Hampshire,	North Chelmsford.
Dukes,	Walpole.	Nantucket,	-

Table showing the number of pupils attending, admitted and discharged during the year.

COUNTY TRAINING SCHOOL.	Number at beginning of year.	Number admitted during the year.	Number discharged during the year.	Number at close of the year.
Essex,	121	54	35	140
Hampden,	39	15	25	29
Middlesex,	180	88	92	176
Norfolk, Bristol and Plymouth, .	62	50	50	62
Suffolk (Boston Parental), . .	251	190	200	241
Worcester,	54	29	33	50
Totals,	707	426	435	698

NAMES OF COUNTY TRUANT SCHOOLS CHANGED TO COUNTY TRAINING SCHOOLS.

Chapter 148, Acts of 1906, provides as follows:—

SECTION 1. The Essex County Truant School at Lawrence shall hereafter be called the Essex County Training School.

SECTION 2. This act shall take effect upon its passage.

Chapter 194, Acts of 1907, provides as follows:—

SECTION 1. The Worcester County Truant School at West Boylston shall hereafter be called the Worcester County Training School.

SECTION 2. This act shall take effect upon its passage.

Chapter 389, Acts of 1906, provides as follows:—

SECTION 1. Habitual truants, habitual absentees and habitual school offenders shall be committed to truant schools, however named, for the instruction and training of children, and now provided for by the several counties, and not to any other institution or place.

SECTION 2. This act shall not apply to the Plummer Farm School of Reform for Boys, at Winter island in Salem.

SECTION 3. So much of any act as is inconsistent herewith is hereby repealed.

Chapter 103, Acts of 1908, provides as follows: —

SECTION 1. The truant school at Springfield in the county of Hampden, the truant school at Chelmsford in the county of Middlesex, and the truant school at Walpole in the county of Norfolk shall hereafter be called, respectively, the Hampden county training school, the Middlesex county training school, and the Norfolk, Bristol and Plymouth union training school; and any school hereafter established pursuant to section one of chapter forty-six of the Revised Laws relative to truants and truant schools shall be called a training school. All laws now or hereafter in force relative to truants and truant schools shall apply to training schools and to commitments thereto.

SECTION 2. This act shall take effect upon its passage.

AN ABSTRACT

OF THE

SCHOOL RETURNS MADE BY THE SCHOOL COMMITTEES
OF THE SEVERAL TOWNS AND CITIES IN
THE COMMONWEALTH

FOR

THE SCHOOL YEAR, 1907-1908.

BARNSTABLE COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils within the year under 5 years of age.	No. of different pupils within the year over 15 years of age.	No. of different pupils within 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average membership.	No. graduated from grammar schools.
Barnstable, . . .	4,336	\$5,405,290	24	655	477	784	—	113	523	719	664	.92	60
Bourne, . . .	1,786	3,334,275	11	262	182	303	—	43	192	293	255	.87	10
Brewster, . . .	739	507,870	4	112	80	99	—	18	71	90	84	.94	7
Chatham, . . .	1,634	1,103,500	10	234	200	286	16	70	200	254	233	.92	18
Dennis, . . .	1,998	1,186,005	13	279	215	346	—	67	201	308	293	.95	28
Eastham, . . .	519	335,500	2	72	53	73	—	1	53	69	62	.90	13
Falmouth, . . .	3,241	7,918,193	18	490	378	584	19	55	427	511	455	.89	37
Harwich, . . .	2,291	1,160,837	12	353	258	389	—	48	286	341	310	.91	22
Mashpee, . . .	317	191,210	2	41	34	45	—	5	31	39	34	.88	4
Orleans, . . .	1,052	610,196	4	169	125	204	—	25	125	189	169	.89	14
Provincetown, . . .	4,362	1,900,300	22	881	689	999	—	101	683	958	893	.93	43
Sandwich, . . .	1,433	982,950	8	214	155	250	—	42	167	228	215	.94	15
Truro, . . .	743	374,460	5	155	112	156	—	7	111	136	127	.93	7
Wallfleet, . . .	958	1,033,135	5	134	97	138	3	6	90	135	123	.91	12
Yarmouth, . . .	1,422	2,016,566	9	187	147	217	2	30	143	190	178	.99	9
Totals, . . .	26,831	\$28,060,287	149	4,238	3,202	4,873	41	631	3,303	4,460	4,095	.92	299

SCHOOL RETURNS.

BERKSHIRE COUNTY.

Adams,	12,486	\$5,921,918	43	2,230	1,786	1,789	17	122	1,290	1,566	1,484	.95	69
Alford,	275	168,255	3	51	36	56	2	-	35	41	34	.82	3
Becket,	890	484,330	7	173	145	178	2	4	132	130	108	.83	10
Cheshire,	1,281	736,843	8	241	170	223	-	2	173	203	192	.94	5
Clarksburg,	1,200	263,192	6	279	204	266	5	4	204	214	182	.85	5
Dalton,	3,122	3,383,042	17	609	490	678	-	4	438	621	583	.94	29
Egremont,	721	461,994	4	87	79	81	-	2	79	79	68	.86	1
Florida,	424	171,895	5	113	77	91	-	2	89	75	65	.87	3
Great Barrington,	6,152	5,426,895	29	938	742	1,181	14	168	724	1,054	953	.91	44
Hancock,	434	288,770	6	81	60	83	1	5	63	71	61	.86	4
Hinsdale,	1,452	584,668	9	261	185	255	3	3	191	217	194	.90	12
Lanesborough,	845	497,236	5	138	100	125	-	4	103	107	88	.82	12
Lee,	3,972	1,972,157	15	727	547	678	32	93	421	588	535	.91	23
Lenox,	3,058	5,148,706	20	584	380	749	18	86	529	612	558	.91	18
Monterey,	444	290,711	4	84	70	87	3	3	70	65	55	.85	-
Mount Washington,	87	83,193	2	12	8	13	-	1	10	9	8	.87	-
New Ashford,	100	51,927	1	9	8	9	-	-	8	9	8	.89	-
New Marlborough,	1,209	675,485	11	189	148	245	2	14	184	176	156	.89	12
North Adams,	22,150	15,028,007	77	4,370	3,051	3,486	187	291	2,063	3,051	2,822	.92	128
Otis,	534	249,452	5	75	60	102	2	-	100	75	62	.82	-
Peru,	268	129,833	4	69	59	53	-	-	44	46	40	.87	-
Pittsfield,	25,001	20,469,000	113	4,593	3,261	4,619	164	439	3,021	4,170	3,867	.93	172
Richmond,	601	349,946	6	83	65	82	-	1	63	65	57	.87	-
Sandisfield,	657	331,345	8	98	65	124	1	3	88	85	72	.85	3
Savoy,	549	183,145	7	95	69	96	-	3	74	79	68	.86	-
Sheffield,	1,782	919,610	13	229	177	304	3	23	198	239	204	.86	11
Stockbridge,	2,022	3,833,989	11	363	305	389	6	31	273	346	317	.92	24
Tyringham,	314	254,725	4	60	48	55	-	1	40	42	38	.90	3
Washington,	339	278,979	5	60	50	68	-	1	56	48	39	.82	4
West Stockbridge,	1,023	388,504	7	202	146	177	-	9	134	149	129	.87	7
Williamstown,	4,425	3,222,299	25	804	673	885	4	91	602	772	723	.94	30
Windsor,	513	284,740	7	90	71	107	1	2	76	87	78	.90	1
Totals,	98,330	\$72,534,791	487	17,997	13,337	17,334	467	1,450	11,575	15,091	13,848	.92	617

BOARD OF EDUCATION.

BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.						Expenditures for high school support.	
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.		Length of schooling.
			In high schools.	In elementary schools.												
Barnstable,	7	23	5	2	21	\$81 45	\$51 00	212	8-16	2	6	130	57	26	9-18	\$7,690 00
Bourne,	2	11	3	1	6	82 05	46 34	91-17	8-7	1	3	65	13	12	9-9	4,563 00
Brewster,	1	3	1	1	2	85 00	43 33	36	9	1	1	16	7	3	9	1,080 00
Chatham,	1	10	3	1	4	100 00	34 00	90	9	1	3	70	15	9	9	2,160 00
Dennis,	3	10	1	1	7	65 00	45 00	117	9	2	2	67	26	14	9	1,708 00
Eastham,	-	2	-	-	2	-	50 00	19-10	9-15	-	-	-	-	-	-	-
Falmouth,	3	19	4	1	8	94 00	50 33	159-12	8-17	1	4	70	22	12	10	6,605 81
Harwich,	1	12	2	1	4	83 25	38 81	100-12	8-8	1	2	60	22	5	9-14	1,572 64
Mashpee,	2	2	-	-	1	-	43 04	17-10	8-15	-	-	-	-	-	-	-
Orleans,	1	5	2	2	2	100 00	43 00	36-4	9-1	1	2	44	9	10	9-16	1,771 00
Provincetown,	1	24	2	1	15	120 00	38 00	209-10	8-9	1	3	88	30	16	10	2,835 00
Sandwich,	1	9	-	-	4	57 15	43 16	67-11	8-9	1	3	37	17	9	9-2	2,221 00
Truro,	1	4	-	-	2	48 00	47 20	47-6	9-9	-	-	-	-	-	-	-
Wellfleet,	1	4	1	1	4	82 75	37 00	48	9-12	1	1	20	13	1	10	1,158 75
Yarmouth,	2	9	1	1	6	85 55	45 72	81	9	1	1	24	7	8	8-18	1,548 28
Totals,	25	147	25	8	88	\$82 34	\$44 04	1,333-12	8-19	14	31	691	238	125	9-10	\$34,913 48

SCHOOL RETURNS.

BERKSHIRE COUNTY — CONTINUED.

Adams,	4	49	6	—	31	\$129 92	\$50 84	405-8	9-8	1	7	126	51	20	9-18	\$6,556 35
Alford,	—	3	—	1	—	—	33 64	27-15	9-5	—	—	—	—	—	—	—
Becket,	—	7	—	—	6	—	37 55	61-4	8-15	—	—	—	—	—	—	—
Cheshire,	—	8	—	—	3	—	40 50	73-10	9-4	—	—	—	—	—	—	—
Clarksburg,	—	6	—	—	6	—	41 33	54	9	—	—	—	—	—	—	—
Dalton,	1	18	4	—	10	120 00	46 55	157-18	9-5	1	4	100	27	4	9-14	4,266 68
Egremont,	—	4	—	2	1	—	42 42	38	9-10	—	—	—	—	—	—	—
Florida,	1	6	—	—	—	40 00	37 68	38	8	—	—	—	—	—	—	—
Great Barrington,	4	35	6	—	13	126 57	45 31	265-14	9-3	1	7	199	71	24	9-15	8,396 00
Hancock,	—	6	—	—	4	—	33 77	49-2	8-3	—	—	—	—	—	—	—
Hinsdale,	—	9	—	—	3	—	40 69	83-5	9-5	—	—	—	—	—	—	—
Lanesborough,	—	5	—	—	5	—	46 20	42-16	8-11	—	—	—	—	—	—	—
Lee,	1	19	4	1	9	159 15	49 33	140-1	9-10	1	4	89	33	23	9-12	4,550 00
Lenox,	1	23	3	—	18	120 00	48 34	182-16	9-2	1	3	58	8	6	9-8	3,000 00
Monterey,	—	4	—	—	1	—	28 50	34-2	8-10	—	—	—	—	—	—	—
Mt. Washington,	—	4	2	—	2	—	50 00	19-12	9-16	—	—	—	—	—	—	—
New Ashford,	—	1	—	—	—	—	41 78	9	9	—	—	—	—	—	—	—
New Marlborough,	—	11	—	—	1	—	29 09	93-7	8-10	—	—	—	—	—	—	—
North Adams,	7	105	11	—	59	129 22	57 90	732-5	9-10	1	12	319	105	48	9-15	13,420 00
Otis,	1	4	—	—	—	33 60	33 60	40	8	—	—	—	—	—	—	—
Peru,	11	136	11	1	39	112 73	53 56	1,070-2	9-14	1	13	353	181	50	9-14	14,806 36
Pittsfield,	—	6	—	—	1	—	34 66	56-10	9-8	—	—	—	—	—	—	—
Richmond,	—	8	—	—	1	—	32 04	67	8-7	—	—	—	—	—	—	—
Sandisfield,	—	8	—	—	—	—	32 04	—	8	—	—	—	—	—	—	—
Savoy,	—	11	—	1	—	—	38 80	56	8	—	—	—	—	—	—	—
Sheffield,	1	13	2	—	1	71 80	33*55	118-19	9-3	1	2	34	6	4	9-8	1,587 06
Stockbridge,	1	13	3	—	9	130 00	58 26	101-4	9-4	1	3	37	19	7	9-4	3,523 81
Tyringham,	1	3	—	—	—	36 00	36 00	35	8-15	—	—	—	—	—	—	—
Washington,	—	5	—	—	—	—	35 32	41-12	8-6	—	—	—	—	—	—	—
West Stockbridge,	2	5	—	—	—	34 00	37 60	65-16	9-8	—	—	—	—	—	—	—
Williamstown,	5	28	4	2	8	95 00	43 00	225-6	9-8	1	4	91	30	12	9-8	4,445 49
Windsor,	—	7	—	—	2	—	34 00	56	8	—	—	—	—	—	—	—
Totals,	41	566	56	9	233	\$107 90	\$48 42	4,475-14	9-4	10	59	1,406	531	198	9-12	\$64,551 75

BOARD OF EDUCATION.

BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Barnstable,	\$18,463 78	\$3,542 56	\$3,357 58	\$96 00	\$1,500 00	\$1,267 14	\$598 05	\$28,824 11	\$3,305 45	\$25,518 66			
Bourne,	5,933 55	1,387 12	2,260 22	113 00	675 00	778 95	565 57	11,713 41	601 02	11,112 39			
Brewster,	1,986 01	1,020 99	238 72	95 00	229 17	105 41	42 00	3,717 30	1,189 80	2,527 50			
Chatham,	4,162 91	192 00	936 87	245 00	561 90	414 57	309 04	6,822 29	1,442 05	5,380 24			
Dennis,	5,621 25	-	1,054 62	110 00	812 50	489 39	155 75	8,243 51	1,521 62	6,721 89			
Eastham,	1,355 00	1,459 60	240 85	-	115 32	326 92	7 69	3,505 38	2,449 71	1,055 67			
Falmouth,	12,264 50	3,067 02	3,915 63	144 07	1,360 00	1,294 80	146 50	22,192 52	519 25	21,673 27			
Harwich,	5,051 24	371 00	930 22	161 38	692 04	579 99	165 08	7,950 95	1,671 29	6,279 66			
Mashpee,	753 25	-	178 24	35 00	150 00	46 53	122 14	1,285 16	700 00	585 16			
Orleans,	3,065 59	1,255 05	616 23	20 00	230 70	582 32	77 65	5,847 54	2,274 20	3,573 34			
Provincetown,	10,565 62	-	1,775 14	243 56	1,105 08	1,438 39	87 75	15,215 54	2,215 60	12,999 94			
Sandwich,	4,234 68	490 78	1,082 41	20 75	675 00	423 34	148 84	7,075 80	2,290 00	4,785 80			
Truro,	2,382 40	22 50	247 54	90 50	248 07	258 87	56 38	3,316 26	1,681 60	1,634 66			
Wellfleet,	2,360 50	702 50	416 43	97 50	247 44	226 45	58 94	4,109 76	998 80	3,110 96			
Yarmouth,	6,516 56	966 20	792 05	165 00	515 63	414 70	127 17	9,497 31	3,023 49	6,473 82			
Totals,	\$84,725 84	\$14,477 32	\$18,042 75	\$1,636 76	\$9,117 85	\$8,647 77	\$2,668 55	\$139,316 84	\$25,883 88	\$113,432 96			

SCHOOL RETURNS.

BERKSHIRE COUNTY — CONTINUED.

Adams,	\$29,392 69	\$206 30	\$5,757 01	\$200 00	\$2,450 00	\$2,446 06	\$1,894 46	\$42,376 52	—	\$886 50	\$42,376 52
Alford,	1,008 00	—	80 25	3 00	204 56	103 48	—	1,399 29	—	1,399 29	512 79
Becket,	3,673 93	294 00	301 60	48 00	381 73	199 55	69 21	4,968 02	2,683 85	2,683 85	2,284 17
Cheshire,	3,508 10	835 00	402 41	62 50	450 00	305 08	244 91	5,808 00	1,772 50	4,035 50	4,035 50
Clarksburg,	2,800 00	—	335 40	45 00	500 00	217 56	55 85	3,953 81	2,319 16	1,634 65	1,634 65
Dalton,	10,771 75	278 00	1,151 43	355 00	1,050 00	1,112 07	77 67	15,542 14	1,003 50	14,538 64	14,538 64
Egremont,	1,926 00	—	229 16	—	272 60	211 67	—	2,717 10	1,625 77	1,091 33	1,091 33
Florida,	1,458 50	144 50	87 50	93 85	236 00	280 80	214 70	2,615 85	1,642 00	873 85	873 85
Great Barrington,	16,901 68	1,166 55	5,010 05	—	1,600 35	2,343 28	894 44	27,924 37	1,546 50	26,377 85	26,377 85
Hancock,	1,753 00	—	95 09	48 00	500 00	107 43	20 35	2,523 87	1,508 27	1,015 60	1,015 60
Hinsdale,	3,996 15	451 30	729 32	—	517 20	408 55	121 87	6,224 39	2,121 25	4,103 14	4,103 14
Lanesborough,	2,345 58	503 00	486 18	117 00	416 63	206 00	154 06	4,228 45	1,814 34	2,414 11	2,414 11
Lee,	9,920 25	832 21	2,304 97	350 00	720 00	1,109 41	308 90	15,545 74	2,140 39	13,405 35	13,405 35
Lenox,	12,287 86	623 00	2,399 89	30 00	1,500 00	779 80	999 57	18,620 12	200 00	18,420 12	18,420 12
Monterey,	1,116 50	504 75	65 20	61 00	300 00	184 01	26 19	2,257 65	1,442 60	815 05	815 05
Mt. Washington,	1,179 25	—	111 75	25 00	150 00	73 78	—	1,539 78	1,038 12	501 66	501 66
New Ashford,	376 00	—	52 50	44 00	83 31	54 44	69 02	679 27	611 77	67 50	67 50
New Marlborough,	3,753 55	86 75	425 86	142 50	570 00	629 42	163 99	5,772 07	1,975 94	3,796 13	3,796 13
North Adams,	64,947 14	897 00	14,440 43	1,950 00	2,750 00	3,601 26	4,131 15	92,716 98	—	92,716 98	92,716 98
Otis,	1,490 00	231 40	98 50	40 00	300 00	179 34	8 05	2,347 29	775 00	1,572 29	1,572 29
Peru,	1,300 50	225 21	64 75	30 00	335 58	187 27	4 00	2,147 31	1,540 95	606 36	606 36
Pittsfield,	78,730 18	272 50	15,638 93	1,411 67	2,300 00	6,012 67	5,521 72	110,787 67	—	110,787 67	110,787 67
Richmond,	2,116 30	159 40	287 73	28 30	477 20	65 23	52 20	3,186 36	1,617 72	1,568 64	1,568 64
Sandisfield,	2,120 00	155 15	208 80	77 20	375 00	120 90	84 03	3,141 08	1,671 84	1,469 24	1,469 24
Savoy,	2,200 00	215 00	87 35	54 00	482 75	166 80	25 10	3,231 00	1,924 89	1,306 11	1,306 11
Sheffield,	4,738 95	435 75	580 36	13 00	780 00	550 53	306 43	7,449 02	2,404 99	5,044 03	5,044 03
Stockbridge,	9,670 50	1,439 08	1,755 37	62 00	500 00	1,083 43	471 81	14,982 19	363 08	14,619 11	14,619 11
Tyringham,	1,329 50	40 00	152 00	30 00	180 00	109 58	8 60	1,849 68	1,207 99	641 69	641 69
Washington,	1,655 60	—	91 37	16 00	177 71	66 26	35 43	2,042 37	976 23	1,066 14	1,066 14
West Stockbridge,	3,602 30	754 30	391 60	36 25	545 50	180 81	319 49	5,830 27	2,667 87	3,162 38	3,162 38
Williamstown,	14,158 10	117 00	4,007 45	148 75	1,200 00	867 25	857 29	21,355 84	287 13	21,068 71	21,068 71
Windsor,	2,126 40	203 50	101 60	9 75	362 08	159 35	13 49	2,976 17	1,714 11	1,262 06	1,262 06
Totals,	\$298,354 26	\$11,070 65	\$57,961 81	\$5,531 77	\$22,676 20	\$25,023 07	\$18,021 87	\$438,639 63	\$43,484 26	\$395,155 37	\$395,155 37

BARNSTABLE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Barnstable,	\$7,666 06	—	\$1,353 37	\$9,019 43	\$9,019 43	\$34,538 09	\$10,894 68	\$394 32	\$368 92
Bourne,	2,000 00	\$499 20	259 21	2,758 41	2,758 41	13,870 80	—	—	—
Brewster,	—	—	128 00	128 00	128 00	2,655 50	—	—	128 76
Chatham,	—	—	100 00	100 00	100 00	5,480 24	—	—	163 53
Dennis,	—	—	740 17	740 17	740 17	7,462 06	—	—	175 00
Eastham,	—	—	94 33	94 33	94 33	1,150 00	—	—	—
Falmouth,	—	—	1,563 20	1,563 20	1,563 20	23,236 47	—	—	—
Harwich,	—	—	503 82	503 82	503 82	6,783 48	1,000 00	40 00	208 48
Mashpee,	—	—	24 63	24 63	24 63	609 79	—	—	—
Orleans,	—	—	260 91	260 91	260 91	3,834 25	—	—	144 58
Provincetown,	—	—	726 20	726 20	726 20	13,726 14	—	—	—
Sandwich,	—	783 14	235 17	1,018 31	1,018 31	5,804 11	—	—	249 63
Truro,	—	—	197 08	197 08	197 08	1,831 74	—	—	—
Wellfleet,	—	—	73 19	73 19	73 19	3,184 15	—	—	—
Yarmouth,	—	—	27 03	27 03	27 03	6,500 85	15,000 00	885 00	—
Totals,	\$9,666 06	\$1,282 34	\$6,286 31	\$17,234 71	\$17,234 71	\$130,667 67	\$26,894 68	\$1,319 32	\$1,438 90

BOARD OF EDUCATION.

BRISTOL COUNTY.

TOWNS AND CITIES.	Population—State Census of 1905.	Valuation—May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Acushnet,	1,284	\$678,490	7	205	157	224	—	5	172	187	172	.92	11
Attleborough,	12,702	12,604,775	49	2,521	1,755	2,465	70	213	1,685	2,109	1,966	.93	91
Berkley,	931	409,711	7	172	125	161	1	2	126	145	132	.91	—
Dartmouth,	3,793	3,325,800	21	759	592	666	3	30	502	594	529	.89	36
Dighton,	2,070	1,018,442	12	387	323	359	3	5	259	314	289	.92	11
Easton,	4,909	5,055,301	27	906	660	1,076	52	89	664	984	915	.93	49
Fairhaven,	4,235	2,949,268	21	895	703	975	—	125	694	862	804	.93	23
Fall River,	105,762	84,730,844	303	21,862	16,032	16,282	134	1,006	11,268	13,702	12,616	.92	367
Freetown,	1,470	842,320	8	257	180	278	1	3	182	221	192	.87	—
Mansfield,	4,245	2,884,019	21	833	592	882	1	82	615	806	739	.93	44
New Bedford,	74,362	71,279,611	221	14,056	9,945	11,004	237	564	7,641	9,603	8,890	.92	213
No. Attleborough,	7,878	4,806,803	31	1,172	839	1,354	2	160	968	1,259	1,157	.92	79
Norton,	2,079	1,081,275	12	324	238	346	3	24	234	297	269	.90	8
Raynham,	1,662	743,946	8	270	203	261	—	7	212	232	203	.87	7
Rehoboth,	1,991	786,151	15	356	276	356	3	6	278	284	250	.88	1
Seekonk,	1,917	1,093,280	10	280	211	311	3	2	227	266	230	.86	6
Somerset,	2,294	1,221,648	13	490	370	494	6	30	357	456	424	.93	17

Swansea,	1,839	1,245,697	12	309	235	329	10	6	234	275	242	.88	10
Taunton,	30,967	21,907,906	140	5,638	4,010	5,058	-	397	3,559	4,706	4,377	.93	163
Westport,	2,867	1,680,325	19	507	364	467	-	13	371	413	365	.88	27
Totals,	269,257	\$220,435,612	957	52,199	37,810	43,348	529	2,769	30,248	37,715	34,761	.92	1,163

DUKES COUNTY.

Chilmark,	322	\$278,757	2	36	23	36	-	-	23	27	24	.89	-
Edgartown,	1,138	925,510	5	180	126	189	-	25	124	173	159	.92	13
Gay Head,	1,175	33,130	1	35	31	45	-	3	32	37	34	.91	-
Gosnold,	178	366,073	1	16	12	19	-	1	12	15	13	.86	1
Oak Bluffs,	161	1,781,075	6	273	234	256	-	26	165	197	183	.93	12
Tisbury,	1,120	1,333,142	6	185	129	227	-	36	151	208	196	.95	11
West Tisbury,	457	516,798	4	67	51	78	-	11	51	68	60	.88	3
Totals,	4,551	\$5,234,485	25	792	606	850	-	102	558	725	669	.92	40

BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
			In high schools.	In elementary schools.												
Acushnet,	7		1	5	1	—	\$41 43	65-10	9-7	1	1	1	70	51	9-15	\$10,963 65
Attleborough,	4	70	8	2	35	\$123 75	49 65	473-15	9-13	1	9	245	70	51	9-15	—
Berkley,	1	6	1	1	1	36 00	35 20	63	9	1	1	—	—	—	9-11	—
Dartmouth,	2		2	1	6	62 50	36 74	186-9	8-17	3	3	27	16	9	9-15	1,246 00
Dighton,	12		1	1	3	—	38 32	105-18	8-16	1	4	101	44	11	9-14	6,261 00
Easton,	2	36	3	16	16	150 00	51 08	255-15	9-9	1	4	144	50	8	9-14	4,324 00
Fairhaven,	4	29	9	21	21	200 00	52 92	200-15	9-11	1	11	144	50	8	9-14	39,785 18
Fall River,	29	392	17	13	74	129 19	54 37	3,030	10	1	26	758	285	107	10	—
Freestown,	2	6	1	10	10	41 50	42 75	66-18	8-7	1	4	92	36	15	9-8	4,582 07
Mansfield,	2	22	4	11	11	114 44	47 00	202-2	9-12	1	4	461	173	53	9-14	34,453 42
New Bedford,	15	272	12	134	204 63	73 87	1,991-15	9	9	1	19	461	173	53	9-14	6,237 10
No. Attleborough,	2	40	6	6	20	120 00	51 36	110-15	9-3	1	6	134	57	26	9-12	2,046 00
Norton,	2	13	2	7	7	76 32	42 30	70-2	9-4	1	3	30	9	9	9-17	—
Raynham,	8		1	4	4	—	43 50	86	8-15	—	—	—	—	—	—	—
Rehoboth,	1	15	1	1	1	—	34 60	132-9	8-17	—	—	—	—	—	—	—
Seekonk,	1	10	1	2	2	—	44 06	86	8-12	—	—	—	—	—	—	—
Somerset,	1	12	1	4	4	60 00	37 13	113-11	8-15	1	1	36	16	3	9-16	1,592 50

Swansea,	1	12	-	5	53 76	35 68	101	8-8	-	-	-	-	-	-	-	-	-	-	-
Taunton,	12	138	5	74	128 00	55 00	1,316-10	9-4	1	12	405	149	67	9-18	17,097 64	-	-	-	-
Westport,	3	16	-	3	42 00	32 63	167-2	8-16	1	1	6	6	-	9-12	216 90	-	-	-	-
Totals,	82	1,138	7	430	\$134 78	\$56 43	9,023-16	9-9	14	99	2,439	911	359	9-14	\$128,805 46	-	-	-	-

DUKES COUNTY -- CONTINUED.

Chilmark,	-	2	-	2	-	\$48 33	18	9	-	-	-	-	-	-	-	-	-	-	-
Edgartown,	1	6	-	-	\$80 00	39 16	44	8-16	1	2	41	13	5	9-15	\$1,336 56	-	-	-	-
Gay Head,	1	1	-	-	55 00	40 00	8-14	8-14	-	-	-	-	-	-	-	-	-	-	-
Gosnold,	-	1	-	1	-	55 00	9	9	-	-	-	-	-	-	-	-	-	-	-
Oak Bluffs,	1	6	2	2	78 88	41 66	52-18	8-16	1	2	23	7	4	8-16	1,307 91	-	-	-	-
Tisbury,	1	6	2	4	88 40	46 71	53-19	9	1	2	37	10	2	9-16	1,540 78	-	-	-	-
West Tisbury,	-	4	1	1	-	45 00	34-5	8-11	1	1	11	1	3	8-13	341 50	-	-	-	-
Totals,	4	26	7	10	\$75 57	\$43 72	223-1	8-18	4	7	112	31	14	9-5	\$4,526 75	-	-	-	-

BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Acushnet,	\$4,094 50	\$776 50	\$524 25	\$150 00	\$343 75	\$194 17	\$183 91	\$6,267 05	\$2,304 02	\$3,963 06			
Attleborough,	42,875 31	2,420 00	11,158 41	1,447 31	1,875 01	3,378 84	1,779 71	64,934 59	1,314 08	63,620 51			
Berkley,	2,105 60	120 00	362 92	130 50	300 00	101 45	81 21	3,201 68	1,606 75	1,594 93			
Dartmouth,	10,533 70	1,295 00	2,095 97	343 30	750 00	1,051 43	586 27	16,655 67	799 48	15,856 19			
Dighton,	5,962 17	400 50	763 20	—	525 00	321 90	114 29	8,087 06	1,370 68	6,716 38			
Easton,	19,412 10	1,879 58	3,721 36	135 48	1,640 00	2,165 88	286 96	29,241 36	7,985 50	21,655 86			
Fairhaven,	23,371 79	1,483 50	6,518 02	286 35	1,412 50	4,174 83	3,765 87	41,012 86	23,130 64	17,882 22			
Fall River,	265,465 75	1,182 00	63,561 84	6,282 84	3,000 00	20,658 23	4,625 55	364,776 21	8,937 54	355,838 67			
Freetown,	3,728 48	255 50	522 07	606 40	252 53	—	55 32	5,420 30	1,665 53	3,754 77			
Mansfield,	12,570 30	634 96	3,021 92	295 00	720 00	2,164 72	572 17	19,979 07	523 50	19,455 57			
New Bedford,	206,016 76	453 75	38,871 20	4,800 00	5,500 00	18,492 85	13,319 54	287,454 10	2,334 04	285,120 06			
No. Attleborough,	22,263 54	—	5,394 57	36 12	1,868 21	2,307 20	1,480 28	33,339 92	—	33,339 92			
Norton,	6,995 00	614 00	1,700 93	67 75	626 67	444 60	109 27	10,558 22	1,943 54	8,614 68			
Raynham,	4,012 41	596 50	420 64	115 00	287 50	451 08	231 86	6,114 99	2,391 40	3,723 59			
Rehoboth,	5,218 00	—	371 35	142 00	675 00	406 95	212 22	7,025 52	2,181 52	4,844 00			
Seekonk,	4,348 55	8 45	608 46	75 00	600 00	215 54	40 54	5,896 54	2,268 75	3,627 79			
Somerset,	5,322 00	337 10	733 89	140 95	500 00	425 28	84 19	7,543 41	1,364 83	6,178 58			

Swansea,	5,714 77	71 30	807 40	31 50	500 00	318 71	305 35	7,749 03	1,992 86	5,756 17
Taunton,	92,428 46	1,366 25	17,674 01	1,129 15	2,324 94	5,178 93	5,453 50	125,555 24	2,609 72	122,945 52
Westport,	6,293 10	500 65	1,171 65	261 60	750 00	554 71	198 80	9,730 51	1,474 63	8,255 88
Totals,	\$748,732 29	\$14,395 54	\$160,004 06	\$16,476 25	\$24,441 11	\$63,007 30	\$33,486 81	\$1,060,543 36	\$67,799 01	\$992,744 35

DUKES COUNTY — CONTINUED.

Chilmark,	\$1,105 37	\$25 50	\$147 50	\$42 00	\$159 96	\$191 73	\$27 00	\$1,699 06	\$1,421 21	\$277 85
Edgartown,	2,970 00	397 75	348 22	80 00	469 92	416 01	153 80	4,835 70	1,608 00	3,227 70
Gay Head,	1,079 53	—	65 00	35 00	80 00	93 95	22 00	1,375 48	1,264 02	111 46
Gosnold,	495 00	—	55 50	41 25	—	32 67	17 70	642 12	566 62	75 50
Oak Bluffs,	2,927 25	324 00	762 41	113 47	400 00	265 11	144 55	4,936 79	343 10	4,593 69
Tisbury,	3,544 73	264 20	608 70	75 00	400 00	311 42	60 77	5,264 82	1,757 49	3,507 33
West Tisbury,	1,652 50	54 00	331 89	20 00	240 00	165 26	19 40	2,483 05	1,198 18	1,284 87
Totals,	\$13,774 38	\$1,065 45	\$2,319 22	\$406 72	\$1,749 88	\$1,476 15	\$445 22	\$21,237 02	\$8,158 62	\$13,078 40

BRISTOL COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation public schools and for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Acushnet,	-	-	\$190 37	\$190 37	-	\$190 37	\$4,153 43	-	-	\$335 67
Attleborough,	-	\$810 00	6,698 17	7,508 17	-	7,508 17	71,128 68	-	-	1,853 08
Berkley,	-	-	108 44	108 44	-	108 44	1,703 37	-	-	-
Dartmouth,	\$1,841 59	11,253 84	1,142 17	14,237 60	-	14,237 60	30,093 79	\$2,000 00	\$80 80	613 07
Dighton,	-	231 35	386 79	618 14	-	618 14	7,334 52	-	-	242 52
Easton,	-	-	621 96	621 96	-	621 96	22,277 82	103,000 00	7,442 26	563 27
Fairhaven,	-	600 15	363 74	963 89	\$107 62	856 27	18,738 49	7,500 00	305 34	-
Fall River,	57,191 83	-	26,520 77	83,712 60	-	83,712 60	439,551 27	50,000 00	2,512 84	-
Free town,	-	1,396 57	165 78	1,562 35	-	1,562 35	5,317 12	-	-	234 22
Mansfield,	-	-	463 99	463 99	-	463 99	19,919 56	-	-	662 65
New Bedford,	35,452 78	4,630 28	15,946 49	56,059 55	-	56,059 55	341,179 61	51,000 00	3,060 00	3,827 69
North Attleborough,	-	575 00	893 22	1,468 22	-	1,468 22	34,808 14	-	-	1,370 00
Norton,	2,201 00	-	698 78	2,899 78	-	2,899 78	11,514 46	-	-	414 30
Raynham,	-	-	241 37	241 37	-	241 37	3,964 96	-	-	139 57
Rehoboth,	-	222 45	322 17	544 62	-	544 62	5,388 62	-	-	410 87
Seekonk,	-	-	283 51	283 51	-	283 51	3,911 80	-	339 04	354 60
Somerset,	-	-	115 94	115 94	-	115 94	6,294 52	-	-	182 66

Swansea,	21 85	185 41	207 26	207 26	5,963 43	-	399 51
Taunton,	7,100 00	6,937 93	14,037 93	14,037 93	136,983 45	-	-
Westport,	-	177 20	4,528 66	4,528 66	12,784 54	-	563 72
Totals,	\$26,841 49	\$62,464 20	\$190,374 35	\$190,266 73	\$1,183,011 08	\$213,500 00	\$13,740 28

DUKES COUNTY — CONTINUED.

Chilmark,	\$368 18	\$11 80	\$379 98	\$379 98	\$657 83	-	-
Edgartown,	424 79	154 03	578 82	578 82	3,806 52	-	\$73 92
Gay Head,	-	23 82	23 82	23 82	135 28	-	3 46
Gosnold,	-	-	-	-	75 50	-	-
Oak Bluffs,	-	-	-	-	4,593 69	-	83 06
Tisbury,	-	101 40	101 40	101 40	3,608 73	-	141 62
West Tisbury,	-	14 68	14 68	14 68	1,299 55	-	-
Totals,	\$792 97	\$305 73	\$1,098 70	\$1,098 70	\$14,177 10	-	\$302 06

SCHOOL RETURNS.

Newbury,	1,480	1,250,505	7	230	164	217	-	3	179	196	172	.87	12
Newburyport,	14,675	11,270,311	47	2,361	1,879	2,125	-	264	1,332	1,960	1,806	.92	125
North Andover,	4,614	4,516,386	24	793	566	888	11	66	682	791	767	.97	26
Peabody,	13,098	9,609,324	47	2,377	1,770	2,083	5	193	1,349	1,890	1,733	.91	70
Rockport,	4,447	3,080,410	20	814	646	868	2	85	566	822	794	.97	50
Rowley,	1,388	747,971	8	324	229	259	-	5	194	232	206	.89	5
Salem,	37,627	32,100,100	122	7,072	4,981	5,433	208	480	3,067	4,794	4,417	.92	254
Salisbury,	1,622	829,780	8	287	203	256	4	9	194	210	189	.90	10
Saugus,	6,253	5,687,069	34	1,393	987	1,659	5	153	1,104	1,433	1,310	.91	79
Swampscott,	5,141	9,317,468	23	792	617	986	8	69	606	887	851	.96	45
Topsfield,	1,095	1,074,077	5	116	81	149	-	16	101	129	111	.87	10
Wenham,	924	2,280,425	6	182	135	154	-	4	116	137	124	.93	12
West Newbury,	1,405	1,059,319	10	234	175	279	1	21	218	259	238	.92	21
Totals,	381,181	\$346,871,602	1,397	67,772	49,379	61,325	849	6,043	40,123	54,916	51,131	.93	2,704

ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
			In high schools.	In elementary schools.												
Amesbury,	2	32	9	—	11	\$117 50	\$54 61	237-16	9-3	1	9	240	84	35	9-10	\$8,946 80
Andover,	2	40	6	—	28	137 10	87 16	320-7	9-8	1	7	104	34	24	9-8	8,317 62
Beverly,	7	95	20	8	62	132 85	60 13	690	10	1	24	538	150	62	10	28,563 25
Boxford,	—	8	—	—	5	—	40 80	50-2	8-7	1	1	7	3	1	9-10	1,250 00
Danvers,	4	42	5	1	19	115 00	49 29	330-17	9-7	1	9	266	77	30	9-5	9,809 11
Essex,	1	11	4	—	2	90 00	39 25	70-4	8-15	1	4	78	16	4	9-15	2,850 00
Georgetown,	—	9	—	—	8	—	45 38	72	9	1	3	68	33	10	10	4,277 33
Gloucester,	6	127	13	1	24	152 00	52 40	1,048	9-6	1	16	470	182	57	9-6	16,050 00
Groveland,	2	13	3	—	11	70 00	37 77	112	8-12	1	3	67	21	13	9-15	2,574 00
Hamilton,	1	9	1	—	4	80 00	52 88	84-12	9-8	1	23	670	235	109	9-15	28,000 00
Haverhill,	11	179	14	—	69	135 66	64 56	1,394-5	9-15	1	4	73	28	7	9-12	4,605 00
Ipswich,	1	23	4	2	5	150 00	45 00	197-3	9-4	1	25	620	232	89	10	31,939 49
Lawrence,	19	257	21	5	74	151 32	54 43	2,071	9-10	1	37	1,006	404	96	9-15	68,293 02
Lynn,	23	262	30	7	105	166 33	69 71	2,262	9-15	2	—	—	—	—	9-15	—
Lynnfield,	—	4	—	1	1	—	46 65	37-1	9-5	—	—	—	—	—	9-10	5,750 00
Manchester,	2	16	4	1	18	145 00	63 50	122-4	9-8	1	4	60	21	13	9-10	—
Marblehead,	1	10	3	—	18	130 00	47 22	260-19	9-6	1	6	180	61	12	9-17	5,935 82
Merrimac,	2	10	3	—	3	92 50	42 50	84-12	9-8	1	3	68	20	9	9-8	2,998 00
Methuen,	3	46	4	—	22	115 00	48 94	345-15	9-6	1	6	122	40	21	9-14	6,736 71
Middleton,	—	4	—	1	2	—	45 50	38	9-10	1	—	—	—	—	—	—
Nahant,	1	7	3	—	4	151 35	60 47	37	9-5	1	3	45	12	5	9-5	3,318 99

SCHOOL RETURNS.

XXV

Newbury,	7	11	3	128	33	43	43	63-19	9-2	1	11	325	135	44	10	-	10,885	75
Newburyport,	51	4	15	99	40	47	47	440-14	9-7	1	4	88	36	11	9-14	-	4,433	00
North Andover,	26	6	35	128	00	52	14	240	9-12	1	12	305	70	25	9-14	*	12,867	22
Peabody,	59	2	12	100	00	52	90	434-18	9-12	1	3	83	36	12	9-16	-	3,814	00
Rockport,	22	2	5	48	00	44	40	178-5	8-18	1	-	-	-	-	-	-	-	-
Rowley,	7	-	100	166	67	34	03	67-15	8-9	1	23	608	245	90	9-4	-	29,272	76
Salem,	12	19	2	40	00	59	58	1,098	9	1	-	-	-	-	-	-	-	-
Salisbury,	7	-	24	160	00	37	71	70-10	8-16	1	5	141	58	22	9-10	-	6,000	00
Saugus,	40	5	12	200	00	51	37	316-4	9-5	1	7	149	43	12	9-13	-	7,819	00
Swampscott,	27	7	3	80	00	62	36	212-17	9-13	1	2	27	12	5	9-17	-	1,229	85
Topsfield,	7	2	2	-	-	38	00	47-17	9-11	1	-	-	-	-	-	-	-	-
Wenham,	6	-	1	79	00	41	33	55-16	9-6	1	3	28	14	3	9-12	-	2,075	50
West Newbury,	9	1	1	-	-	38	00	83-1	8-8	1	-	-	-	-	-	-	-	-
Totals,	123	1,643	204	38	700	\$140	32	\$57	63	13,175-13	257	6,436	2,282	821	9-13	-	\$318,612	22

1 Punchard Free School.

2 Barker Free School.

3 Perley Free School.

ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Amesbury, . . .	\$17,482 15	\$418 75	\$3,254 25	\$90 00	\$1,040 00	\$2,102 00	\$1,201 50	\$25,588 65	\$129 79	\$25,458 86			
Andover, . . .	26,091 88	1,484 10	4,235 07	45 00	1,900 00	1,782 58	719 37	36,258 00	3,676 10	32,581 90			
Beverly, . . .	71,959 05	2,255 00	14,390 00	1,468 00	2,200 00	7,416 13	2,023 05	101,711 23	-	101,711 23			
Boxford, . . .	2,882 00	69 25	349 55	-	300 00	151 36	8 80	3,760 96	1,457 62	2,303 34			
Danvers, . . .	25,986 50	800 00	5,290 77	235 10	1,600 00	3,643 57	2,630 15	40,186 09	980 00	39,206 09			
Essex, . . .	5,200 00	395 75	1,055 07	70 00	310 00	695 12	84 52	7,810 46	1,720 62	6,089 84			
Georgetown, . . .	4,126 00	1,738 00	1,078 97	3 00	600 00	466 22	63 03	8,075 22	2,299 12	5,776 10			
Gloucester, . . .	69,325 88	2,000 00	18,238 00	1,360 00	2,300 00	5,591 14	981 24	99,796 26	-	99,796 26			
Groveland, . . .	6,688 53	-	1,653 76	140 75	600 00	714 90	272 03	10,069 97	1,714 03	8,355 94			
Hamilton, . . .	6,344 68	444 24	1,178 36	175 00	450 00	625 84	309 61	9,527 73	481 50	9,046 23			
Haverhill, . . .	128,759 29	1,801 25	20,548 08	1,494 28	2,400 00	12,025 91	5,417 75	172,446 56	959 42	171,487 14			
Ipswich, . . .	12,683 22	715 00	1,746 33	250 00	720 00	1,786 51	654 90	18,586 05	2,647 00	15,939 05			
Lawrence, . . .	188,305 99	-	35,660 84	4,046 01	3,000 00	15,463 27	5,340 11	251,816 22	-	251,816 22			
Lynn, . . .	217,129 63	-	38,219 13	5,748 00	3,000 00	21,323 50	6,228 31	291,648 57	2,046 03	289,602 54			
Lynnfield, . . .	3,195 13	200 00	568 43	60 00	197 00	460 50	38 19	4,719 25	1,850 00	2,869 25			
Manchester, . . .	13,452 02	1,079 00	3,107 11	-	1,500 00	2,145 86	807 07	22,091 06	-	22,091 06			
Marblehead, . . .	22,769 90	143 18	3,185 49	50 00	1,335 00	2,443 28	592 96	30,519 81	-	30,519 81			
Merrimac, . . .	5,947 18	500 00	1,266 90	100 00	530 00	645 61	664 54	9,654 23	1,750 68	7,903 55			
Methuen, . . .	24,698 96	-	6,535 33	50 40	1,267 50	1,818 53	631 27	35,001 99	468 41	34,533 58			
Middleton, . . .	2,594 20	889 00	484 80	115 25	310 00	214 82	202 68	4,810 75	-	4,810 75			
Nahant, . . .	5,525 34	-	1,370 75	310 00	200 00	522 53	205 79	8,134 41	-	8,134 41			

Newbury,	3,260 72	633 18	1,178 86	90 05	300 00	284 70	387 83	6,135 34	1,656 23	4,479 11
Newburyport,	32,326 77	-	6,571 25	666 25	1,600 00	3,613 02	136 94	44,914 23	2,914 23	42,000 00
North Andover,	16,970 10	-	3,729 72	200 00	900 00	2,200 46	386 31	24,386 59	86 56	24,300 03
Peabody,	36,406 29	828 45	6,521 38	699 96	1,800 00	2,589 28	983 09	49,828 45	162 00	49,666 45
Rockport,	10,206 25	-	2,478 54	56 30	1,080 00	1,398 71	3,356 50	18,576 30	-	18,576 30
Rowley,	3,609 55	161 70	643 03	76 67	300 00	463 17	99 83	5,353 95	2,197 03	3,156 92
Salem,	109,888 22	380 00	17,030 09	2,800 00	2,500 00	7,924 23	1,864 93	142,387 47	1,124 25	141,263 22
Salisbury,	3,080 95	494 65	498 50	172 40	300 00	362 87	122 48	5,031 85	1,190 89	3,840 96
Saugus,	21,710 35	-	7,060 49	100 35	1,040 00	2,887 93	1,183 13	33,982 25	360 00	33,622 25
Swampscott,	19,686 00	25 00	4,546 26	230 00	1,850 00	2,367 62	1,755 61	30,460 49	-	30,460 49
Topsfield,	2,792 95	493 75	341 45	40 00	320 50	399 31	135 45	4,523 41	1,151 81	3,371 60
Wenham,	4,000 00	358 70	533 47	133 75	310 00	318 37	556 45	6,210 74	1,051 13	5,159 61
West Newbury,	4,604 55	474 98	643 15	127 75	600 00	459 61	439 20	7,349 24	2,339 99	5,009 25
Totals,	\$1,129,690 23	\$18,782 93	\$215,193 18	\$21,204 27	\$38,660 00	\$107,308 46	\$40,514 71	\$1,571,353 78	\$38,679 07	\$1,532,674 71

ESSEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Amesbury,	-	\$1,421 35	-	\$1,421 35	-	\$26,880 21	-	-	-
Andover,	-	2,703 19	\$2,071 88	4,775 07	-	37,356 97	\$74,805 00	\$4,687 82	-
Beverly,	-	-	4,313 70	98,244 99	-	199,956 22	3,000 00	144 02	\$528 20
Boxford,	\$93,931 29	-	99 60	99 60	-	2,402 94	3,400 00	77 63	-
Danvers,	-	3,460 85	815 27	4,276 12	-	43,482 21	-	-	701 30
Essex,	-	-	368 62	368 62	-	6,458 46	-	-	144 47
Georgetown,	-	-	207 51	207 51	-	5,983 61	-	-	178 52
Gloucester,	51,402 59	1,521 85	13,573 53	66,497 97	-	166,294 23	10,893 17	412 29	940 00
Groveland,	-	-	-	-	-	8,355 94	-	-	-
Hamilton,	-	-	418 93	418 93	-	9,465 16	-	-	334 00
Haverhill,	53,849 93	1,288 00	6,738 29	61,876 22	-	233,363 36	6,020 00	258 00	-
Ipswich,	-	1,920 00	359 77	2,279 77	-	18,218 82	68,000 00	2,577 00	309 65
Lawrence,	-	-	19,228 57	19,228 57	-	271,044 79	-	-	-
Lynn,	33,507 61	31,832 73	14,179 98	79,520 32	-	369,122 86	-	-	-
Lynnfield,	-	134 73	-	134 73	-	3,003 98	-	-	124 32
Manchester,	-	1,153 35	883 72	2,037 07	-	24,128 13	-	-	-
Marblehead,	25,536 52	658 33	793 18	26,988 03	-	57,507 84	-	-	-
Merrimac,	-	1,226 53	77 04	1,303 57	-	9,207 12	-	-	158 18
Methuen,	-	250 00	2,274 16	2,524 16	-	37,037 74	-	-	990 46
Middleton,	-	649 71	54 17	703 88	-	3,250 00	-	-	185 71
Nahant,	-	420 55	252 75	673 30	-	8,807 71	-	-	-

SCHOOL RETURNS.

Newbury,	1,079 99	-	-	-	-	-	-	-	-	-	130,000 00	3,500 00
Newburyport,	-	-	-	65	6	602	-	-	-	-	-	-
North Andover,	-	75 00	-	-	-	-	-	-	-	-	-	-
Peabody,	-	-	-	-	1	696	-	-	-	-	-	-
Rockport,	-	59 67	-	-	-	-	-	-	-	-	-	-
Rowley,	857 99	-	-	-	10	2,975	-	-	-	-	-	-
Salem,	-	-	-	-	1	12	-	-	-	-	-	-
Salisbury,	997 49	-	-	-	-	-	-	-	-	-	-	-
Saugus,	-	-	-	-	-	-	-	-	-	-	-	-
Swampscott,	-	-	-	-	-	-	-	-	-	-	-	-
Topsfield,	847 49	-	-	-	-	-	-	-	-	-	-	-
Wenham,	632 99	-	-	-	-	-	-	-	-	-	-	-
West Newbury,	1,079 99	-	-	-	-	-	-	-	-	-	-	-
Totals,	\$12,343 38	\$1,841 70	5	796	47	15,217	\$79,710 61	\$61,756 00	\$897,801 89	\$20,618 21		

FRANKLIN COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905	Valuation — May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Ashfield,	959	\$597,217	11	149	109	173	2	24	115	155	142	92	20
Barnardston,	769	425,031	8	110	94	149	1	18	94	132	121	.92	7
Buckland,	1,500	713,348	9	261	199	238	2	2	189	225	214	.95	19
Charlemont,	1,002	419,455	10	172	117	182	2	7	171	155	146	.94	16
Colrain,	1,780	628,465	15	370	266	338	1	7	274	299	271	.90	17
Conway,	1,340	662,984	12	194	154	259	1	9	226	209	194	.93	10
Deerfield,	2,112	1,590,802	14	346	243	311	4	2	237	282	257	.91	16
Erving,	1,094	895,987	7	179	143	209	1	3	150	185	170	.92	1
Gill,	1,023	445,474	6	146	107	151	1	1	117	130	120	.93	1
Greenfield,	9,156	8,131,585	42	1,570	1,102	1,725	18	191	1,100	1,544	1,423	.92	66
Hawley,	448	154,953	6	92	68	87	1	1	87	71	65	.90	6
Heath,	356	163,008	4	59	43	59	1	1	49	52	48	.92	2
Leverett,	703	315,377	4	133	104	128	1	1	97	113	100	.88	2
Leyden,	408	175,579	5	65	49	74	1	3	40	62	53	.87	3
Monroe,	269	146,915	4	58	44	65	1	3	46	53	51	.95	3
Montague,	4,079,977	4,079,977	32	1,238	926	1,192	9	125	805	1,149	1,095	.95	69
New Salem,	7,015	336,840	7	109	81	143	1	18	86	113	103	.91	3
Northfield,	2,017	1,238,920	9	240	193	264	1	30	186	222	197	.89	16
Orange,	5,578	3,472,405	23	918	676	1,067	2	148	724	900	928	.94	71
Rowe,	533	175,107	6	96	72	90	1	1	67	82	77	.93	4
Shelburne,	1,515	1,050,347	10	231	165	262	1	36	169	246	231	.94	22
Shutesbury,	374	236,905	3	49	35	52	2	3	37	44	39	.89	1

Sunderland,	910	491,755	4	161	106	145	-	5	116	129	121	.93	7
Warwick,	527	364,880	4	121	95	117	1	6	77	102	90	.88	3
Wendell,	480	237,493	5	102	78	81	3	3	72	76	72	.95	8
Whately,	822	434,841	5	111	80	101	2	-	80	79	70	.90	-
Totals,	43,362	\$27,585,650	265	7,280	5,349	7,662	47	649	5,411	6,899	6,398	.93	386

HAMPDEN COUNTY.

Agawam,	2,795	\$1,684,582	14	548	402	464	5	16	314	425	390	.92	20
Blandford,	746	457,082	6	91	68	97	-	1	77	74	64	.87	4
Brimfield,	894	482,247	7	146	117	134	3	6	90	112	104	.93	14
Chester,	1,366	655,288	11	269	206	336	2	33	201	274	239	.87	16
Chicopee,	20,191	10,966,220	76	3,515	2,826	2,854	90	180	1,909	2,521	2,293	.91	65
E. Longmeadow,	1,327	653,200	10	362	258	351	2	5	273	291	249	.86	5
Granville,	865	417,982	8	168	122	172	-	5	122	136	122	.90	-
Hampden,	561	375,832	6	108	82	107	4	4	74	90	86	.95	5
Holland,	151	96,354	1	17	13	20	1	1	12	13	11	.86	2
Holyoke,	49,934	44,753,780	151	10,460	8,067	7,142	348	683	4,505	6,144	5,609	.91	270
Longmeadow,	964	1,133,570	5	189	157	157	1	6	150	133	121	.91	7
Ludlow,	3,881	3,472,474	23	1,019	847	691	1	34	655	644	589	.91	11
Monson,	4,344	1,767,071	23	656	473	785	3	94	525	684	634	.93	36
Montgomery,	259	150,476	4	35	29	27	1	2	24	27	24	.90	1
Palmer,	7,755	3,963,189	26	1,415	1,032	1,126	6	110	740	1,039	982	.95	54
Russell,	1,053	673,549	8	179	155	161	4	9	154	143	130	.91	5
Southwick,	1,048	651,465	10	175	119	210	2	2	154	143	129	.90	-
Springfield,	73,540	92,378,624	295	12,694	9,068	13,796	757	1,325	8,246	11,516	10,605	.92	481
Tolland,	274	172,709	1	36	24	33	-	3	23	21	17	.80	2
Wales,	645	280,907	4	95	80	120	-	1	101	93	83	.90	5
Westfield,	13,611	8,975,158	57	2,451	1,688	2,433	71	284	1,847	2,142	1,873	.89	132
West Springfield,	8,101	5,971,866	42	1,705	1,212	1,874	73	194	1,174	1,682	1,536	.91	49
Wilbraham,	1,708	1,044,352	12	231	187	248	4	6	166	220	200	.91	9
Totals,	196,013	\$181,177,987	800	36,564	27,232	33,338	1,379	3,004	21,506	28,567	26,090	.91	1,193

SCHOOL RETURNS.

Sunderland,	-	5	-	-	2	-	42 88	34-4	8-11	-	-	-	-	-	-	-	-	-
Warwick,	-	4	-	-	-	-	40 00	35-15	8-19	-	-	-	-	-	-	-	-	-
Wendell,	-	5	-	-	2	-	31 86	40	8	-	-	-	-	-	-	-	-	-
Whately,	-	5	-	-	5	-	36 80	45	9	-	-	-	-	-	-	-	-	-
Totals,	10	292	35	4	120	\$110 71	\$40 42	2,335-4	8-16	11	42	948	309	135	9-15	9-15	9-15	\$42,131 51

HAMPDEN COUNTY — CONTINUED.

Agawam,	-	14	-	-	7	-	\$41 75	129-10	9-5	-	-	-	-	-	-	-	-	-	-
Blandford,	1	7	4	-	2	\$40 00	36 00	41-18	8-7	-	-	-	-	-	-	-	-	-	-
Brimfield,	1	10	4	-	1	150 00	43 70	60-19	8-14	2	24	15	4	4	9-11	9-11	9-11	-	-
Chester,	1	11	1	-	5	90 00	39 63	97-6	8-17	4	50	24	2	2	9-11	9-11	9-11	\$2,550 85	-
Chicopee,	2	84	7	1	54	180 00	48 42	736-17	9-11	1	8	177	65	30	9-15	9-15	9-15	10,346 93	-
E. Longmeadow,	-	10	-	-	7	-	44 22	91	9-2	-	-	-	-	-	-	-	-	-	-
Granville,	-	8	1	-	2	-	36 50	70	8-15	-	-	-	-	-	-	-	-	-	-
Hampden,	-	6	-	-	1	-	40 66	55-15	9-5	-	-	-	-	-	-	-	-	-	-
Holland,	-	1	-	-	1	-	48 00	9	9	-	-	-	-	-	-	-	-	-	-
Holyoke,	21	187	25	8	127	133 16	62 75	1,479-12	9-16	1	30	711	264	90	9-17	9-17	9-17	44,016 46	-
Longmeadow,	-	5	-	-	5	-	51 52	46-3	9-4	-	-	-	-	-	-	-	-	-	-
Ludlow,	-	25	1	-	18	-	45 00	213-18	9-6	1	2	26	12	-	9-12	9-12	9-12	2,079 45	-
Monson,	4	27	6	-	5	110 00	42 85	211-2	9-3	1	7	90	34	18	9-9	9-9	9-9	3,449 78	-
Montgomery,	-	4	-	-	2	-	34 23	33-11	8-7	-	-	-	-	-	-	-	-	-	-
Palmer,	2	29	5	-	17	87 00	46 00	237-19	9-3	1	5	118	56	17	9-16	9-16	9-16	4,670 00	-
Russell,	-	8	-	-	5	-	39 50	71-18	8-19	-	-	-	-	-	-	-	-	-	-
Southwick,	-	10	-	-	1	-	39 20	94-9	9-8	-	-	-	-	-	-	-	-	-	-
Springfield,	35	341	54	25	267	167 42	70 34	2,863-2	9-11	2	58	1,411	464	196	9-11	9-11	9-11	90,027 10	-
Tolland,	-	2	-	-	1	-	39 48	11-15	8-10	-	-	-	-	-	-	-	-	-	-
Wales,	2	2	-	-	1	41 00	40 00	34-6	8-11	-	-	-	-	-	-	-	-	-	-
Westfield,	6	75	10	3	54	167 16	52 00	522	9-9	1	13	318	124	56	9-14	9-14	9-14	16,500 00	-
West Springfield,	5	43	6	1	28	100 58	47 74	388-5	9-4	1	7	202	69	28	9-17	9-17	9-17	8,201 28	-
Wilbraham,	1	11	-	-	8	36 00	41 28	108	9	1	1	-	-	-	-	-	-	-	-
Totals,	81	920	120	43	619	\$142 39	\$58 48	7,608-5	9-10	11	136	3,127	1,127	441	9-13	9-13	9-13	\$181,841 85	-

1 Powers Institute. 2 Deerfield Academy and Dickinson High School. 3 Hitchcock Free Academy. 4 Monson Academy.

FRANKLIN COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School supplies.						
Ashfield,	\$4,478 80	\$224 20	\$472 81	\$54 02	\$589 29	\$461 48	\$4 50	\$6,285 10	\$2,887 19	\$3,397 91			
Barnardston,	3,222 50	460 00	440 32	75 00	342 16	258 86	93 22	4,892 06	2,373 37	2,518 69			
Buckland,	5,373 00	225 66	649 81	40 00	450 00	185 75	57 56	6,981 78	3,100 00	3,881 78			
Charlemont,	3,536 00	506 00	570 65	65 00	482 82	417 31	632 69	6,210 47	2,660 83	3,549 64			
Colrain,	5,239 31	595 55	355 39	27 00	600 00	457 62	85 01	7,359 88	2,953 12	4,406 76			
Conway,	3,554 95	574 05	757 81	90 00	490 58	297 19	262 74	6,027 32	1,967 87	4,059 45			
Deerfield,	3,296 37	1,198 50	948 64	112 87	656 82	536 43	114 73	8,864 36	1,639 24	7,225 12			
Erving,	3,223 25	462 75	831 03	49 00	552 64	246 78	68 78	5,434 23	2,032 47	3,401 76			
Gill,	2,562 65	347 50	292 05	45 00	325 00	249 56	38 87	3,860 63	2,040 63	1,820 00			
Greenfield,	27,625 00	1,738 30	6,063 69	100 00	1,915 00	1,987 02	2,133 20	41,552 21	1,010 00	40,542 21			
Hawley,	1,807 00	92 55	88 30	38 10	289 71	164 07	68 51	1,839 15	1,839 15	709 09			
Heath,	1,163 00	575 50	49 50	41 25	172 21	167 82	34 60	2,548 24	1,630 79	573 09			
Leverett,	1,825 00	696 60	103 50	58 00	388 15	118 51	84 80	2,203 88	2,055 98	1,218 58			
Leyden,	1,472 75	60 00	70 55	66 25	325 25	46 07	12 82	2,053 44	1,371 39	682 05			
Monroe,	1,430 00	—	91 82	10 00	161 75	224 17	43 20	1,960 94	1,497 74	463 20			
Montague,	20,952 77	2,818 45	5,560 82	99 50	1,800 00	2,443 50	901 83	34,576 87	775 37	33,801 50			
New Salem,	2,941 10	440 75	141 18	—	569 95	262 54	15 00	4,370 52	2,451 35	1,919 17			
Northfield,	4,227 50	352 00	516 28	5 50	650 00	723 54	194 96	6,669 78	1,989 40	4,680 38			
Orange,	14,291 50	2,830 50	3,335 00	50 00	1,658 33	2,012 13	499 36	24,676 82	—	24,676 82			
Rowe,	1,663 75	243 00	142 28	65 00	241 39	77 66	35 82	2,468 90	1,680 82	788 08			
Shelburne,	5,299 25	412 50	742 33	50 00	450 00	211 06	110 42	7,275 56	2,292 88	4,982 68			
Shutesbury,	1,170 75	434 37	80 68	47 00	221 78	52 78	18 66	2,026 02	1,235 62	790 40			

SCHOOL RETURNS.

Sunderland,	2,664 50	1,504 34	524 61	48 00	293 56	279 05	5,534 41	2,347 11	3,187 30
Warwick,	1,835 00	1,517 45	209 19	16 00	325 00	71 89	4,223 67	2,013 69	2,209 98
Wendell,	1,715 25	257 60	94 15	70 00	609 04	49 61	2,943 63	1,788 67	1,154 96
Whately,	2,263 25	680 00	209 90	100 00	200 42	76 21	3,721 97	2,259 49	1,462 48
Totals,	\$130,834 20	\$19,248 12	\$23,342 29	\$1,422 49	\$14,760 60	\$5,978 04	\$207,997 25	\$49,894 17	\$158,103 08

HAMPDEN COUNTY — CONTINUED.

Agawam,	\$7,915 35	\$630 25	\$1,526 32	\$159 00	\$649 60	\$485 62	\$128 50	\$11,494 64	\$1,835 81	\$9,658 83
Blandford,	2,813 50	303 50	96 68	25 00	340 89	173 09	24 31	3,776 97	2,045 67	1,731 30
Brimfield,	1,968 00	621 85	351 12	76 91	450 00	198 20	7 00	3,673 08	1,595 65	2,077 43
Chester,	4,782 50	247 75	786 80	35 00	730 56	707 90	65 00	7,355 51	3,619 99	3,735 52
Chicopee,	48,535 50	1,852 00	10,740 67	331 25	2,000 00	3,303 77	1,723 93	68,487 12	208 50	68,278 62
East Longmeadow,	6,037 64	—	852 81	132 13	472 82	467 76	376 74	8,339 90	3,598 28	4,741 62
Granville,	2,635 30	331 07	269 79	51 00	450 00	129 55	284 40	4,151 11	1,945 49	2,205 62
Hampden,	2,276 00	131 00	338 48	99 00	301 50	257 79	42 93	3,446 70	1,964 58	1,482 12
Holland,	517 03	152 00	35 10	—	70 83	8 44	1 09	784 49	455 23	329 26
Holyoke,	151,884 32	607 50	28,233 39	4,874 99	3,000 00	13,975 77	11,807 17	214,383 14	—	214,383 14
Longmeadow,	4,882 00	375 00	708 52	20 00	237 60	287 22	235 50	6,745 84	1,490 87	5,254 97
Ludlow,	12,647 15	1,644 72	3,840 78	483 75	950 36	1,196 50	2,004 40	22,767 66	1,165 05	21,602 61
Monson,	12,257 45	245 80	1,643 85	229 55	1,050 00	1,045 12	157 89	16,629 66	2,640 99	13,988 67
Montgomery,	1,682 50	155 50	76 40	—	193 77	161 18	14 80	2,284 15	1,684 41	599 74
Palmer,	16,112 20	1,808 70	4,660 18	20 00	1,800 00	1,548 46	927 27	26,876 81	—	26,876 81
Russell,	3,399 00	214 00	348 28	12 40	389 56	229 83	15 32	4,608 39	1,669 94	2,938 45
Southwick,	3,677 00	—	363 91	92 00	525 00	286 69	28 44	4,973 04	2,622 91	2,350 13
Springfield,	318,519 81	824 00	62,185 43	8,471 52	5,833 30	36,458 07	10,851 32	443,134 44	4,009 01	439,134 44
Tolland,	581 03	627 40	26 75	51 00	150 00	97 38	19 00	1,552 56	700 00	852 56
Wales,	1,668 81	377 50	257 68	—	233 75	113 91	10 50	2,662 15	1,386 94	1,275 21
Westfield,	44,615 75	2,330 50	9,203 49	174 72	2,341 69	6,911 28	2,636 20	68,213 63	8,100 40	60,113 23
West Springfield,	24,633 32	350 00	6,412 25	16 75	1,766 72	1,827 82	534 57	35,541 43	2,652 90	32,888 53
Wilbraham,	5,702 92	3 45	1,289 28	108 04	566 59	551 20	40 50	8,261 98	1,635 93	6,626 05
Totals,	\$679,744 08	\$13,833 49	\$134,247 96	\$15,464 01	\$24,504 54	\$70,422 55	\$31,936 78	\$970,153 41	\$47,028 55	\$923,124 86

FRANKLIN COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Log tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and repairs.	Ordinary repairs.					Principal.	Income.	
Ashfield,	-	\$437 00	\$24 26	\$461 26	\$437 00	\$24 26	\$3,422 17	\$21,423 75	\$878 44	\$65 38
Bernardston,	-	-	264 25	264 25	-	264 25	2,782 94	14,218 67	565 90	88 62
Buckland,	-	-	310 27	310 27	-	310 27	4,192 05	-	-	99 53
Charlemont,	-	-	39 02	39 02	-	39 02	3,588 66	3,600 00	163 90	83 93
Colrain,	-	-	247 81	247 81	-	247 81	4,654 57	-	175 00	113 30
Conway,	167 27	-	350 60	350 60	-	350 60	4,410 05	1,000 00	41 23	73 89
Deerfield,	89 13	-	461 43	550 56	-	550 56	7,775 68	-	-	127 68
Erving,	652 86	-	126 10	778 96	-	778 96	4,180 72	-	-	86 68
Gill,	-	-	103 08	103 08	103 08	-	1,820 00	3,500 00	175 00	-
Greenfield,	6,000 00	-	1,354 90	7,354 90	-	7,354 90	47,897 11	-	-	-
Hawley,	-	-	168 16	168 16	-	168 16	877 25	328 50	22 28	49 43
Heath,	-	-	126 91	126 91	-	126 91	700 00	-	-	39 94
Leverett,	-	-	29 55	29 55	-	29 55	1,248 13	-	-	-
Leyden,	145 70	-	25	145 95	145 95	-	682 05	-	175 00	-
Monroe,	-	-	135 82	135 82	-	135 82	599 02	-	-	-
Montague,	345 19	-	853 31	1,198 50	-	1,198 50	35,000 00	-	-	-
New Salem,	-	-	33 25	33 25	-	33 25	1,952 42	-	-	58 00
Northfield,	-	-	90 87	1,221 43	-	1,221 43	5,901 81	-	-	268 80
Orange,	\$11,325 84	545 68	594 30	12,465 82	-	12,465 82	37,142 64	-	-	-
Rowe,	-	-	-	-	-	-	788 08	-	-	54 45
Shelburne,	-	-	652 79	652 79	-	652 79	5,635 47	14,000 00	500 00	81 37
Shutesbury,	-	20 45	4 64	25 09	9 95	15 14	805 54	-	-	47 90

HAMPSHIRE COUNTY.

TOWNS AND CITIES.	SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.		
	Population — State Census of 1905.	Valuation — May 1, 1907.	No. of public schools.	No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Amherst.	5,313	\$3,628,936	18	759	525	918	2	175	570	838	772	.92	46
Belchertown.	2,088	893,840	19	390	319	455	2	51	317	386	351	.91	18
Chesterfield.	563	304,590	6	88	61	99	—	10	70	73	65	.90	5
Cummington.	740	316,130	8	131	101	138	—	7	106	133	124	.94	9
Easthampton.	6,808	4,980,894	30	1,247	905	1,294	—	47	880	1,117	1,024	.92	38
Enfield.	973	695,500	7	171	147	160	2	1	147	141	129	.91	11
Goshen.	747	175,360	4	62	45	65	—	1	52	56	51	.90	7
Granby.	747	495,405	5	118	87	133	1	15	91	116	103	.88	7
Greenwich.	475	252,442	2	88	66	59	—	—	52	53	49	.92	3
Hadley.	1,895	1,282,682	11	319	249	347	—	33	232	316	293	.93	14
Hatfield.	1,779	1,419,177	9	264	181	250	—	4	160	242	217	.90	17
Huntington.	1,451	600,000	10	267	214	347	1	42	237	320	292	.91	34
Middlefield.	399	189,035	6	90	65	131	—	—	65	95	86	.90	2
Northampton.	19,957	13,128,426	81	3,071	2,432	3,097	167	303	1,952	2,765	2,641	.95	103
Pelham.	460	223,888	4	96	69	99	—	2	75	74	67	.90	1
Plainfield.	382	175,092	4	64	45	64	—	4	48	53	49	.92	4
Prescott.	322	179,404	5	59	41	48	1	—	39	46	43	.93	2

SCHOOL RETURNS.

Southampton,	927	495,766	8	157	133	163	1	-	125	142	124	.87	5
South Hadley,	5,054	2,617,023	25	936	669	955	4	80	638	891	817	.92	69
Ware, . . .	8,594	4,531,090	29	1,537	1,242	1,156	12	113	778	995	937	.94	45
Westhampton,	466	225,942	5	114	81	108	-	2	80	89	81	.91	4
Williamsburg,	1,943	947,719	14	397	309	441	2	23	321	382	354	.92	10
Worthington,	614	307,406	6	104	83	120	-	5	99	91	82	.90	2
Totals, . .	62,227	\$38,065,747	317	10,529	8,069	10,647	195	918	7,134	9,414	8,751	.93	456

BOARD OF EDUCATION.

HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
			In high schools.	In elementary schools.												
Amherst,	3	22	6	2	9	\$115 00	\$45 25	160-6	8-18	1	6	191	44	27	9-12	\$6,400 00
Belchertown,	1	19	2	1	2	73 55	33 32	153-1	8-16	1	2	83	18	13	9	1,781 92
Chesterfield,	1	5	—	—	—	38 42	37 80	52-5	8-14	—	—	—	—	—	—	—
Cummington,	1	7	—	—	1	40 00	36 40	66-15	8-7	—	—	—	—	—	—	—
Easthampton,	1	32	4	5	11	120 00	43 74	264-10	8-16	1	4	58	24	9	9-16	3,225 00
Enfield,	—	7	—	—	1	—	39 79	63	9	—	—	—	—	—	—	—
Goshen,	—	4	—	—	1	—	39 93	32	8	—	—	—	—	—	—	—
Granby,	1	5	2	—	4	80 00	36 00	45-10	9-2	1	2	26	7	7	9-16	1,469 72
Greenwich,	—	2	—	—	1	—	44 00	17-14	8-17	—	—	—	—	—	—	—
Hadley,	—	14	3	—	2	—	41 00	96-9	8-15	1	3	36	19	8	9-14	2,400 00
Hatfield,	—	9	—	—	5	—	39 10	79-9	8-16	—	—	—	—	—	—	—
Huntington,	1	12	3	—	7	75 00	37 80	90-2	9	1	4	81	29	10	9-18	2,660 98
Middlefield,	—	6	—	—	2	—	36 66	50-2	8-7	—	—	—	—	—	—	—
Northampton,	6	95	13	2	44	128 00	48 16	784	9-13	1	14	343	135	35	9-14	15,422 51
Pelham,	—	4	—	—	2	—	38 00	35-11	8-17	—	—	—	—	—	—	—
Plainfield,	—	5	—	—	1	—	35 30	40	8	—	—	—	—	—	—	—
Prescott,	1	5	—	—	—	32 00	31 20	43-4	8-13	—	—	—	—	—	—	—

BOARD OF EDUCATION.

HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Amherst,	\$12,627 90	\$871 66	\$2,280 85	\$165 00	\$1,500 00	\$1,326 10	\$844 67	\$19,616 18	\$2,362 06	\$17,254 12			
Belchertown,	5,996 67	106 40	456 47	194 63	1,080 00	272 14	91 63	8,197 94	2,847 39	5,350 55			
Chesterfield,	2,083 50	440 60	99 42	34 50	375 00	122 54	122 54	3,205 40	1,732 40	1,473 00			
Cummington,	2,997 98	117 00	206 63	40 00	407 16	105 23	34 12	3,908 12	2,463 55	1,444 57			
Easthampton,	15,849 63	743 75	3,426 08	128 10	1,323 30	1,132 26	484 39	23,087 51	888 65	22,198 86			
Enfield,	2,300 48	708 70	500 86	84 38	420 00	359 70	10 00	4,384 12	2,302 69	2,081 43			
Goshen,	1,278 00	25 00	72 00	13 00	214 30	205 63	108 86	1,916 79	1,446 06	470 73			
Granby,	2,678 00	949 25	369 17	85 00	437 50	321 95	141 68	4,982 55	2,602 34	2,380 21			
Greenwich,	1,233 20	538 00	99 50	40 00	157 89	30 41	25 08	2,124 08	1,185 55	938 53			
Hadley,	5,710 00	534 75	1,215 10	2 00	627 44	590 12	191 43	8,870 84	3,723 49	5,147 35			
Hatfield,	4,399 26	38 00	1,221 99	67 00	490 40	466 26	21 00	6,703 91	1,319 50	5,384 41			
Huntington,	5,338 71	320 85	1,031 64	46 88	550 08	585 14	158 05	8,031 35	2,987 39	5,043 96			
Middlefield,	1,911 00	155 70	117 25	—	308 12	82 63	394 22	2,968 92	2,228 70	740 22			
Northampton,	55,672 01	719 75	13,563 81	815 21	2,000 00	4,944 28	1,793 11	79,508 17	3,009 46	76,498 71			
Pelham,	1,689 00	88 00	79 50	—	300 00	63 58	46 46	2,266 54	2,086 49	180 05			
Plainfield,	1,412 00	—	66 85	26 40	285 69	190 35	28 10	2,009 39	1,271 51	737 88			
Prescott,	1,508 10	300 75	83 70	28 00	369 15	133 75	54 14	2,477 59	1,839 82	637 77			

SCHOOL RETURNS.

Southampton,	3,023 10	-	466 91	75 00	135 43	187 50	4 68	3,892 62	1,727 19	2,165 43
South Hadley,	13,095 47	1,150 00	3,540 04	100 00	1,312 50	1,183 32	1,043 61	21,424 94	1,094 00	20,330 94
Ware,	19,321 10	1,035 20	5,701 82	-	2,000 00	1,845 30	1,687 59	31,591 01	365 68	31,225 33
Westhampton,	2,637 08	-	115 25	41 00	105 53	189 30	24 10	3,112 26	1,912 26	1,200 00
Williamsburg,	5,558 40	310 40	969 61	225 00	750 00	566 66	180 20	8,560 27	3,305 59	5,254 68
Worthington,	2,115 00	18 00	185 14	75 00	375 00	322 00	38 06	3,128 20	1,955 49	1,172 71
Totals,	\$170,435 59	\$9,171 76	\$35,869 59	\$2,286 10	\$15,524 49	\$15,226 15	\$7,455 02	\$255,968 70	\$46,657 26	\$209,311 44

BOARD OF EDUCATION.

HAMPSHIRE COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Amherst,	-	-	\$1,075 25	\$1,075 25	-	\$1,075 25	\$18,329 37	-	-	\$523 25
Belchertown,	-	-	259 38	259 38	-	259 38	5,609 93	\$242 40	-	-
Chesterfield,	-	-	81 60	81 60	-	81 60	1,554 60	22 75	-	-
Cummington,	-	-	122 67	122 67	\$97 08	25 59	1,470 16	-	-	97 08
Easthampton,	-	\$72 00	1,308 92	1,380 92	-	1,380 92	23,579 78	-	-	314 14
Enfield,	-	-	59 37	59 37	-	59 37	2,140 80	-	-	-
Goshen,	-	-	22 44	22 44	-	22 44	493 17	-	-	-
Granby,	-	-	165 92	165 92	-	165 92	2,546 13	-	-	-
Greenwich,	-	-	11 47	11 47	-	11 47	950 00	30 00	-	-
Hadley,	-	-	655 12	655 12	-	655 12	5,802 47	-	-	153 84
Hatfield,	\$1,999 20	371 94	1,055 49	3,426 63	-	3,426 63	8,811 04	-	-	-
Huntington,	12,077 59	-	129 64	12,207 23	-	12,207 23	17,251 19	-	-	-
Middlefield,	-	-	94 72	94 72	-	94 72	834 94	-	-	-
Northampton,	-	2,859 23	2,802 14	5,661 37	-	5,661 37	82,160 08	3,000 00	113 54	1,117 38
Pelham,	-	-	10 00	10 00	-	10 00	190 05	-	-	18 66
Plainfield,	-	-	11 80	11 80	-	11 80	749 68	-	-	-
Prescott,	-	-	30 37	30 37	-	30 37	668 14	-	-	66 22

SCHOOL RETURNS.

Southampton,	143 87	-	143 87	-	143 87	2,309 30	-	-	140 90
South Hadley,	2,963 50	-	3,773 46	-	3,773 46	24,104 40	-	-	386 85
Ware,	883 04	-	1,991 63	-	1,991 63	33,216 96	-	-	-
Westhampton,	-	-	67 95	67 95	-	1,200 00	-	-	-
Williamsburg,	-	-	439 49	439 49	-	5,694 17	14,104 00	714 80	175 25
Worthington,	-	-	82 73	82 73	-	1,255 44	-	-	194 01
Totals,	\$14,076 79	\$7,293 58	\$31,775 39	\$165 03	\$31,610 36	\$240,921 80	\$24,104 00	\$1,123 49	\$3,187 58

MIDDLESEX COUNTY.

TOWNS AND CITIES.	Population—State Census of 1905.		Valuation—May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.									
	No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.			No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average membership.	No. graduated from grammar schools.				
Acton,	2,089	\$1,798,545	11	340	249	363	—	30	353	331	292	.88	26			
Arlington,	9,668	10,887,550	44	1,859	1,305	1,969	—	216	1,251	1,778	1,683	.95	98			
Ashby,	865	506,727	4	125	90	135	—	21	85	123	112	.91	9			
Ashland,	1,597	1,094,328	10	322	272	362	7	45	241	338	308	.91	25			
Ayer,	2,386	2,008,215	10	406	312	508	1	73	314	481	442	.92	36			
Bedford,	1,208	1,285,115	4	185	125	145	1	3	112	138	126	.91	12			
Belmont,	4,360	5,994,920	20	845	677	850	1	87	576	779	722	.93	20			
Billerica,	2,843	2,245,908	16	519	351	575	4	42	432	509	456	.89	24			
Boxborough,	324	252,115	4	54	43	54	1	1	45	49	45	.93	2			
Burlington,	588	609,834	3	69	49	75	1	2	51	61	58	.95	4			
Cambridge,	97,434	107,009,290	323	16,110	11,500	16,248	910	1,534	10,093	14,957	13,878	.94	735			
Carlisle,	523	416,193	3	89	65	92	—	1	66	85	74	.87	3			
Chelmsford,	4,254	3,298,410	26	800	584	864	8	64	589	775	696	.90	28			
Concord,	5,421	6,126,188	22	900	635	1,152	—	223	610	998	928	.93	51			
Dracut,	3,537	2,191,015	16	538	411	560	2	8	420	497	458	.92	17			
Dunstable,	412	295,100	3	78	65	83	—	3	66	75	68	.92	1			
Everett,	29,111	24,050,350	141	5,846	4,149	6,721	11	638	4,492	6,153	5,818	.95	330			
Frammingham,	11,548	9,779,660	53	1,931	1,517	2,191	18	232	1,437	2,059	1,894	.92	132			
Groton,	2,253	2,998,802	10	315	229	377	—	66	256	344	313	.91	26			
Holliston,	2,663	1,566,329	13	448	342	540	—	66	368	485	447	.92	28			

SCHOOL RETURNS.

Hopkinton,	2,585	1,558,171	13	431	334	471	1	41	313	427	399	41	.93	30
Hudson,	6,217	3,413,881	21	1,102	758	1,133	6	95	724	1,070	999	95	.93	76
Lexington,	4,530	6,209,800	21	805	595	877	7	114	573	823	759	9	.92	49
Lincoln,	1,122	2,869,832	5	137	93	117	—	2	90	103	95	2	.93	9
Littleton,	1,219	1,016,858	7	218	152	237	—	26	157	201	194	96	.96	21
Lowell,	94,889	75,445,738	274	14,498	10,169	13,423	693	1,007	8,605	11,375	10,424	92	.92	478
Malden,	38,037	32,759,650	163	7,744	5,137	7,314	6	845	4,861	6,695	6,173	92	.92	352
Marlborough,	14,073	9,889,313	64	2,923	2,031	2,580	42	225	1,683	2,368	2,287	96	.96	101
Maynard,	5,811	3,732,355	20	723	584	879	1	54	625	793	736	93	.93	44
Medford,	19,686	22,340,450	90	3,914	2,797	4,515	123	486	2,948	3,988	3,670	22	.92	22
Melrose,	14,295	15,734,410	67	2,997	2,011	3,224	46	501	2,007	2,974	2,799	94	.94	212
Natick,	9,609	6,850,400	40	1,629	1,168	1,829	—	1,558	1,186	1,750	1,641	94	.94	119
Newton,	36,827	67,523,685	162	6,597	4,717	6,942	310	1,021	4,098	6,223	5,757	93	.93	317
North Reading,	903	673,115	4	166	151	136	—	1	104	130	118	91	.91	12
Pepperell,	3,268	2,234,747	18	585	512	766	7	69	494	643	576	90	.90	33
Reading,	5,682	4,991,526	22	997	723	1,213	6	185	724	1,125	1,025	91	.91	66
Sherborn,	1,379	1,345,286	7	225	169	225	—	3	178	193	179	93	.93	16
Shirley,	1,692	1,046,727	8	304	253	332	8	15	230	274	253	92	.92	14
Somerville,	69,272	61,527,750	241	12,298	8,668	13,970	272	1,735	8,962	11,793	11,068	93	.93	72
Stoneham,	6,332	4,956,916	26	1,083	743	1,232	2	152	791	1,101	1,032	94	.94	83
Stow,	1,027	881,126	6	201	130	217	—	21	144	195	180	92	.92	8
Sudbury,	1,159	1,301,160	7	188	129	198	6	22	124	183	168	92	.92	10
Tewksbury,	4,415	1,101,926	6	222	184	192	—	3	157	162	146	91	.91	9
Townsend,	1,772	1,142,378	9	264	183	295	—	46	168	262	243	93	.93	12
Tyngsborough,	768	514,094	5	140	104	127	2	1	100	111	101	91	.91	4
Wakefield,	10,268	8,367,559	50	1,889	1,372	2,382	23	273	1,478	2,091	1,985	95	.95	130
Waltham,	26,282	24,956,188	77	3,987	2,761	3,375	103	423	2,039	3,172	2,951	93	.93	180
Watertown,	11,258	12,695,723	37	1,927	1,568	1,728	23	209	1,022	1,591	1,467	92	.92	97
Wayland,	2,200	1,964,134	11	366	301	399	4	46	254	368	343	93	.93	27
Westford,	2,413	1,675,310	15	403	332	469	—	40	320	394	345	88	.88	15
Weston,	2,091	5,914,417	7	297	197	308	—	48	192	281	264	93	.93	22
Wilmington,	1,670	1,272,427	11	355	297	402	—	57	272	370	370	94	.94	35
Winchester,	8,242	11,010,650	36	1,681	1,230	1,775	62	229	1,078	1,617	1,486	92	.92	76
Woburn,	14,402	10,904,518	59	3,463	2,160	2,967	37	271	1,954	2,738	2,559	93	.93	138
Totals,	608,499	\$594,236,814	2,345	106,138	75,683	110,113	2,753	13,179	70,512	98,599	91,585	93	.93	4,496

BOARD OF EDUCATION.

MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		TEACHERS AND TEACHERS' WAGES.		LENGTH OF SCHOOLING.		HIGH SCHOOLS.							
	Men.	Women.	In high schools.	In elementary schools.	No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.	Length of schooling.	Expenditures for high school support.
Acton,	11		1	—	7	—	\$48 82	105	9-11	1	3	41	23	4	10	\$2,608 04
Arlington,	3	57	8	1	23	\$154 67	63 68	415	9-8	1	12	327	79	18	9-10	16,615 89
Ashby,	1	4	2	2	2	80 00	45 00	33-19	8-10	1	2	21	8	2	9-9	1,441 28
Ashland,	1	11	2	—	7	110 00	42 90	88-11	8-17	1	3	50	20	8	9-12	2,800 00
Ayer,	1	12	3	—	7	130 00	48 42	94-11	9-9	1	4	93	39	12	9-18	4,137 11
Bedford,	—	4	—	—	—	—	—	37	9-5	1	—	—	—	—	—	—
Belmont,	1	24	4	1	10	160 00	62 40	186	9-6	1	5	106	25	12	9-6	5,986 50
Billerica,	1	14	3	1	6	73 68	45 26	145-12	9-2	1	3	55	14	5	9-15	2,716 00
Boxborough,	—	4	—	—	2	—	—	37	9-5	1	—	—	—	—	—	—
Burlington,	—	3	—	—	1	—	42 66	27-12	9-4	1	—	—	—	—	—	—
Cambridge,	53	407	55	22	246	163 80	71 23*	3,003-18	9-6	3	75	1,664	569	209	9-8	115,966 00
Carlisle,	—	3	—	—	1	—	40 44	26-5	8-15	—	—	—	—	—	—	—
Chelmsford,	2	28	6	5	18	102 50	46 74	241-16	9-6	2	6	61	25	6	9-16	3,400 00
Concord,	5	29	12	1	12	104 00	65 88	205-12	9-7	1	12	291	93	54	9-18	14,147 87
Dracut,	—	18	—	—	13	—	45 55	147-11	9-4	—	—	—	—	—	—	—
Dunstable,	—	3	—	—	2	—	—	26-17	8-19	—	—	—	—	—	—	—
Everett,	11	167	14	4	97	148 50	61 23	1,281-16	9-2	1	19	561	243	90	9-11	26,292 22
Frammingham,	5	60	8	2	46	130 00	54 06	478-10	9	1	9	272	111	29	9-11	12,550 00
Groton,	1	13	3	2	3	130 00	47 53	88-18	8-17	1	4	82	26	16	9-6	3,848 00
Holliston,	1	14	3	—	5	100 00	45 27	114-11	8-16	1	3	62	23	10	9-18	2,610 00

SCHOOL RETURNS.

Hopkinton,	15	1	4	47 40	115-7	8-17	1	3	50	15	7	9-14	3,000 00
Hudson,	26	7	10	49 09	200-3	9-10	1	7	213	75	16	9-11	7,550 00
Lexington,	23	6	6	54 51	193-5	9-6	1	5	101	36	11	9-8	8,483 79
Lincoln,	5	1	1	53 89	45-24	9-5	-	-	-	-	-	-	-
Littleton,	8	3	5	50 37	64	9-2	1	3	45	16	3	10	2,406 60
Lowell,	318	21	116	177 62	2,520-16	9-4	1	35	1,085	396	168	9-10	55,572 00
Malden,	176	16	112	166 90	1,507-1	9-4	1	29	782	316	115	9-5	37,605 55
Marlborough,	7	6	14	99 28	1,507-1	9-1	1	12	388	95	43	9-10	12,940 00
Maynard,	21	5	14	95 00	194-17	9-16	1	5	64	25	7	9-16	4,000 00
Medford,	100	14	28	151 50	840-19	9-7	1	18	572	183	75	9-7	25,137 27
Medford,	89	16	32	121 66	613-5	9-3	1	18	500	189	79	9-10	23,342 88
Melrose,	46	9	26	121 85	371-7	9-5	1	10	267	103	44	9-14	10,707 59
Natick,	228	35	145	203 61	1,523	9-8	1	38	983	315	163	9-5	62,486 79
Newton,	4	2	2	46 00	36-13	9-3	-	-	-	-	-	-	-
North Reading,	19	3	7	126 30	154-8	8-12	1	3	93	28	12	9-8	4,027 50
Pepperell,	32	11	18	160 12	210-17	9-11	1	11	274	87	42	9-6	14,307 65
Reading,	6	1	5	42 00	59-10	8-15	1 ²	2	26	11	4	8-15	1,311 00
Sherborn,	1	1	8	70 00	70-6	8-16	1	1	24	7	2	9-15	1,512 93
Shirley,	8	1	8	42 08	70-6	8-16	1	1	24	7	2	9-2	79,323 81
Somerville,	304	34	173	171 36	2,208-1	9-2	2	56	1,543	524	223	9-2	6,500 00
Stoneham,	29	5	10	175 00	236-12	9-2	1	5	140	68	19	9-7	1,769 00
Stow,	7	2	4	90 00	54-10	9-2	1	2	30	6	2	10	1,682 53
Sudbury,	7	2	5	80 00	62-9	8-18	1	2	23	11	1	9-15	-
Tewksbury,	6	1	5	45 33	56-15	9-9	-	-	-	-	-	-	-
Townsend,	10	3	4	80 00	77-11	8-14	1	3	63	10	5	9-11	2,125 05
Tyngsborough,	5	1	4	45 90	46-6	9-5	-	-	-	-	-	-	-
Wakefield,	62	7	30	113 20	470-6	9-8	1	12	315	124	35	9-10	13,573 46
Waltham,	94	14	47	157 27	695-12	9-8	1	16	453	177	65	9-7	25,339 00
Watertown,	5	2	15	162 98	334-18	9-1	1	8	203	71	19	9-6	9,350 00
Wayland,	45	7	9	100 54	99-25	9-2	1	3	65	19	4	9-18	3,417 99
Westford,	13	2	8	106 64	144-15	9-12	1 ³	2	30	14	4	9-15	2,418 72
Weston,	10	4	5	210 52	64	8-18	1	4	64	23	7	9-5	5,625 00
Wilmington,	12	3	3	100 00	98-1	8-18	1	3	66	30	4	9-14	2,630 00
Winchester,	47	6	23	163 33	354-12	9-17	1	8	246	90	37	10	11,650 00
Woburn,	67	8	14	134 00	541-6	9-3	1	11	258	98	20	9-7	12,705 04
Totals,	2,804	381	1,420	\$154 78	21,635-16	9-6	48	495	12,652	4,470	1,744	9-10	\$667,520 06

* Westford Academy.

* United with Sawin Academy.

* Howe Academy.

MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Acton,	\$5,198 00	\$1,673 00	\$1,394 85	\$93 14	\$480 00	\$625 20	\$264 41	\$9,728 60	\$1,532 48	\$8,196 12			
Arlington,	41,467 13	—	8,315 86	345 00	2,500 00	4,991 07	959 72	58,578 78	1,838 19	56,720 59			
Ashby,	2,531 10	1,811 83	527 90	—	340 00	200 28	78 45	5,489 56	2,325 95	3,163 61			
Ashland,	5,813 11	1,079 60	1,321 76	65 00	625 00	587 06	305 39	9,796 92	2,702 48	7,094 44			
Ayer,	7,241 50	97 50	1,875 80	50 00	825 00	1,033 27	150 05	11,273 12	1,602 80	9,670 32			
Bedford,	4,316 42	995 00	665 30	—	570 00	257 72	142 27	6,946 71	2,100 50	4,846 21			
Belmont,	17,322 25	280 00	4,657 01	18 95	1,500 00	1,301 45	559 75	25,639 41	208 00	25,431 41			
Billerica,	7,464 00	764 50	2,381 32	180 00	750 00	529 05	393 50	12,462 37	1,480 00	10,982 37			
Boxborough,	1,825 40	—	211 15	25 00	300 00	96 59	41 33	2,499 47	1,459 50	1,039 97			
Burlington,	1,640 97	677 10	510 80	75 00	270 00	93 19	26 95	3,294 01	1,185 00	2,109 01			
Cambridge,	383,209 80	222 00	78,195 96	8,501 00	4,815 00	23,720 61	4,919 02	503,583 39	7,694 61	495,888 78			
Carlisle,	1,423 20	1,139 90	123 21	—	225 00	108 65	27 47	3,047 43	1,498 91	1,548 52			
Chelmsford,	14,100 50	964 75	3,565 88	295 00	1,125 00	1,127 73	530 41	21,709 27	1,186 00	20,523 27			
Concord,	25,006 05	3,469 00	3,907 62	209 50	425 00	2,441 63	2,175 25	37,634 05	6,974 86	30,659 19			
Dracut,	11,811 70	513 55	2,863 69	51 00	1,000 00	709 74	281 34	17,231 02	1,686 44	15,544 58			
Dunstable,	1,085 10	1,094 00	491 55	—	150 00	102 35	27 49	2,950 49	1,835 60	1,114 89			
Everett,	120,308 19	—	25,214 41	1,229 20	2,500 00	14,749 49	5,840 38	169,841 67	300 50	169,541 17			
Frammingham,	36,454 50	2,409 50	7,589 99	152 00	2,000 00	3,707 78	2,592 51	54,906 28	632 89	54,273 39			
Groton,	7,790 00	809 25	1,233 80	17 50	250 00	870 10	635 66	11,626 31	126 34	11,499 97			
Holliston,	7,269 00	1,380 00	1,272 69	5 00	620 00	789 50	226 82	11,563 01	1,469 12	10,093 89			

SCHOOL RETURNS.

Hopkinton,	6,503 00	1,775 17	16 00	920 00	502 30	525 93	11,036 95	2,036 43	9,000 52
Hudson,	15,986 71	3,970 76	175 38	1,500 00	1,485 33	1,152 59	25,061 03	295 00	24,766 03
Lexington,	18,805 50	5,672 29	275 00	900 00	2,010 87	970 54	31,497 65	273 32	31,224 33
Lincoln,	4,029 00	1,727 65	—	457 50	266 13	105 46	7,342 21	566 32	6,775 89
Littleton,	4,902 99	1,379 50	—	348 25	635 50	129 55	8,505 83	2,189 99	6,315 84
Lowell,	274,348 13	74,260 70	5,445 00	3,000 00	14,566 28	7,776 86	379,621 97	6,561 13	373,060 84
Malden,	152,673 45	28,657 89	2,380 00	2,640 00	9,863 90	9,068 61	205,283 85	—	205,283 85
Marlborough,	40,746 24	7,563 39	750 00	1,880 00	3,329 28	1,237 31	56,927 96	315 43	56,612 53
Maynard,	13,664 11	3,157 31	99 50	812 50	1,326 33	826 78	20,271 53	625 00	19,646 53
Medford,	88,412 17	16,466 57	1,900 00	2,800 00	5,498 93	5,895 37	120,973 04	165 50	120,807 54
Melrose,	65,791 08	16,759 51	570 00	2,420 00	5,799 86	2,364 85	94,255 30	—	94,255 30
Melrose,	31,716 07	7,233 38	82 00	2,200 00	2,522 96	2,009 40	46,376 28	—	45,898 17
Natick,	192,126 12	31,058 70	2,977 25	4,000 00	17,054 72	7,457 15	256,713 94	478 11	256,235 83
Newton,	3,436 74	721 17	72 00	300 00	278 30	60 00	5,712 71	2,546 66	3,166 05
North Reading,	3,436 74	721 17	72 00	300 00	278 30	60 00	5,712 71	2,546 66	3,166 05
Pepperell,	9,357 30	2,864 04	187 50	750 00	1,326 14	327 59	15,708 82	1,797 39	13,911 43
Reading,	21,289 75	6,491 31	40 00	973 33	1,997 62	3,705 46	35,067 47	2,067 71	32,999 76
Sherborn,	2,498 55	698 25	17 65	300 00	394 34	98 07	5,468 21	1,337 63	4,130 58
Shirley,	3,687 74	751 57	135 00	457 14	433 46	70 00	6,972 41	1,887 65	5,084 76
Somerville,	267,607 11	43,427 63	2,500 00	3,000 00	16,550 13	7,767 20	340,852 07	—	340,852 07
Stoneham,	19,843 41	5,520 47	118 94	1,040 00	1,667 90	741 78	29,201 90	180 00	29,021 90
Stow,	3,989 54	931 89	100 00	412 50	383 84	6 00	6,818 92	2,697 20	4,121 72
Sudbury,	4,310 71	1,103 49	158 20	450 00	620 80	227 47	8,839 27	2,164 28	6,674 99
Tewksbury,	4,794 60	857 60	103 45	625 00	256 74	151 36	7,659 08	2,105 49	5,553 59
Townsend,	4,868 00	1,074 33	8 50	850 00	458 06	162 68	8,712 82	1,419 07	7,293 75
Tyngsborough,	2,838 06	562 85	29 40	203 24	176 58	133 13	5,417 26	2,214 72	3,202 54
Wakefield,	42,461 35	8,073 18	—	1,800 00	3,697 28	1,741 48	57,773 29	2,137 74	55,635 55
Waltham,	73,738 00	16,123 65	900 00	2,375 00	5,488 37	1,286 70	100,911 63	140 50	100,771 13
Watertown,	34,472 91	7,122 64	350 00	1,800 00	2,242 65	1,794 81	48,235 41	109 00	48,126 41
Wayland,	7,612 37	1,903 08	186 65	796 92	1,278 76	408 70	14,089 33	1,628 24	12,461 09
Westford,	8,219 44	1,059 20	10 60	800 00	752 90	304 36	12,621 34	1,702 50	10,918 84
Weston,	9,004 71	4,259 25	2,121 61	100 00	680 00	1,073 28	17,688 85	—	17,688 85
Wilmington,	6,329 52	225 00	150 00	787 50	758 47	99 76	9,720 07	1,783 13	7,936 94
Winchester,	35,205 77	7,556 35	700 00	2,240 00	2,803 70	2,207 79	51,226 61	260 00	50,966 61
Woburn,	44,415 74	8,574 90	1,025 71	2,000 00	2,961 90	746 73	59,869 78	683 50	59,186 28
Totals,	\$2,222,963 81	\$464,000 03	\$33,226 02	\$67,008 88	\$168,112 79	\$82,832 92	\$3,092,132 66	\$82,228 81	\$3,009,903 85

MIDDLESEX COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total, expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Acton,	-	\$4,506 26	\$466 25	\$4,972 51	-	\$13,168 63	-	\$1,627 36	\$402 32
Arlington,	-	2,499 86	1,058 41	3,558 27	-	60,278 86	-	25 72	-
Ashby,	-	-	50 00	50 00	-	3,213 61	-	-	345 89
Ashland,	-	-	658 22	658 22	-	7,752 66	-	-	306 34
Ayer,	-	567 95	230 43	798 38	-	10,468 70	-	-	-
Bedford,	-	-	238 63	238 63	-	5,084 84	-	-	-
Belmont,	-	-	543 57	543 57	-	25,974 98	-	-	-
Billerica,	-	-	663 63	663 63	-	11,646 00	-	-	388 37
Boxborough,	-	40 00	284 50	324 50	-	1,060 67	-	-	111 60
Burlington,	\$39,763 32	12,685 07	12,671 66	65,120 05	\$40 00	561,008 83	-	-	-
Cambridge,	-	65 00	160 04	225 04	-	1,733 56	500 00	20 20	-
Carlisle,	4,834 80	551 20	819 72	6,205 72	-	26,728 99	-	-	594 83
Chelmsford,	-	267 48	754 54	1,022 02	-	31,681 21	26,300 00	1,364 82	-
Concord,	195 67	714 69	198 84	1,109 20	-	16,653 78	3,000 00	115 45	785 01
Dracut,	-	186 00	9 16	195 16	-	1,310 05	-	-	-
Dunstable,	-	-	7,458 06	7,458 06	-	176,999 23	-	-	-
Everett,	-	2,933 70	2,809 76	86,862 86	-	141,136 25	1,259 00	75 54	1,420 49
Frammingham,	81,119 40	-	-	799 91	-	12,299 88	-	-	-
Groton,	-	-	-	799 91	-	10,399 85	-	-	-
Holliston,	-	-	305 96	305 96	-	-	-	-	-

SCHOOL RETURNS.

Hopkinton,	44 54	44 54	44 54	44 54	44 54	9,045 06	5,836 00	233 44	351 98
Hudson,	516 97	693 42	693 42	693 42	693 42	25,459 45	706 12	26 71	368 70
Lincoln,	451 85	901 85	901 85	901 85	901 85	32,126 18	-	-	-
Littleton,	203 64	5,436 52	5,436 52	5,436 52	5,436 52	12,212 41	1,307 00	48 82	-
Lowell,	419 00	2,211 31	2,211 31	2,211 31	2,211 31	8,527 15	3,500 00	210 00	342 61
Malden,	36,823 40	37,106 07	37,106 07	37,106 07	37,106 07	410,166 91	-	-	-
Marlborough,	8,976 94	237,689 77	237,689 77	237,689 77	237,689 77	442,983 62	-	-	-
Medford,	1,893 32	2,381 41	2,381 41	2,381 41	2,381 41	58,993 94	5,600 75	270 44	-
Melrose,	745 35	745 35	745 35	745 35	745 35	20,391 88	-	-	-
Natick,	7,219 15	19,981 33	19,981 33	19,981 33	19,981 33	140,788 87	-	-	-
Newton,	5,498 60	5,925 60	5,925 60	5,925 60	5,925 60	100,176 90	-	-	-
North Reading,	2,344 18	2,344 18	2,344 18	2,344 18	2,344 18	48,242 35	-	-	-
Pepperell,	11,009 85	11,009 85	11,009 85	11,009 85	11,009 85	267,723 79	-	-	3,819 46
Reading,	636 79	865 89	865 89	865 89	865 89	4,031 94	-	-	1,009 33
Sherborn,	698 62	698 62	698 62	698 62	698 62	14,610 05	-	-	-
Shirley,	1,117 63	1,117 63	1,117 63	1,117 63	1,117 63	34,117 39	-	-	-
Somerville,	59 94	59 94	59 94	59 94	59 94	4,190 52	-	-	-
Stoneham,	90 00	382 27	382 27	382 27	382 27	5,467 03	11,040 57	419 82	125 52
Stow,	10,849 21	49,812 19	49,812 19	49,812 19	49,812 19	390,664 26	-	-	-
Sudbury,	687 91	875 41	875 41	875 41	875 41	29,897 31	-	-	-
Tewksbury,	100 00	100 00	100 00	100 00	100 00	4,221 72	12,000 00	545 00	186 37
Townsend,	122 11	426 20	426 20	426 20	426 20	7,101 19	3,453 00	46 04	260 03
Tyngsborough,	491 27	491 27	491 27	491 27	491 27	6,044 86	-	-	668 42
Wakefield,	310 15	310 15	310 15	310 15	310 15	7,603 90	-	-	-
Waltham,	56 68	56 68	56 68	56 68	56 68	3,259 22	2,279 16	114 73	11 10
Watertown,	1,151 22	2,411 03	2,411 03	2,411 03	2,411 03	58,046 58	-	-	-
Wayland,	3,551 25	7,762 95	7,762 95	7,762 95	7,762 95	108,534 08	-	-	-
Westford,	2,892 52	2,892 52	2,892 52	2,892 52	2,892 52	51,018 93	-	-	-
Weston,	210 59	210 59	210 59	210 59	210 59	12,671 68	-	-	186 41
Wilmington,	257 82	10,444 43	10,444 43	10,444 43	10,444 43	21,263 27	-	-	-
Winchester,	462 58	462 58	462 58	462 58	462 58	18,151 43	-	-	-
Woburn,	83 47	83 47	83 47	83 47	83 47	8,020 41	2,000 00	37 84	308 43
	2,936 98	2,936 98	2,936 98	2,936 98	2,936 98	53,903 59	-	-	-
	4,335 58	4,335 58	4,335 58	4,335 58	4,335 58	107,298 90	-	-	-
Totals,	\$137,451 10	\$638,127 01	\$40 00	\$638,087 01	\$3,647,990 86	\$119,042 63	\$5,181 93	\$11,993 21	
	\$69,790 84	\$430,885 07							

MIDDLESEX COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1908.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		FUNDS WHOSE INCOME MUST BE APPROPRIATED TO ACADEMIES OR PRIVATE SCHOOLS.	
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.	Principal.	Income.
Acton,	\$1,079 98	-	-	-	2	38	-	-	-	-
Arlington,	-	\$214 00	-	-	-	-	-	-	-	-
Ashby,	1,429 98	-	-	-	-	-	-	-	-	-
Ashland,	847 50	-	-	-	-	-	-	-	-	-
Ayer,	847 50	30 00	-	-	-	-	-	-	-	-
Bedford,	708 00	-	-	-	-	-	-	-	-	-
Belmont,	-	-	27	-	-	-	-	\$2,640 00	-	\$1,731 00
Billerica,	772 50	-	1	-	1	55	-	-	\$29,651 00	-
Boxborough,	1,197 50	-	-	-	-	-	-	-	-	-
Burlington,	997 50	-	-	-	15	4,227	-	\$45,430 00	-	-
Cambridge,	-	-	-	-	-	-	-	-	-	-
Carlisle,	965 00	-	-	-	-	-	-	-	-	-
Chelmsford,	-	-	-	-	-	-	-	-	-	-
Concord,	-	-	1	93	2	55	64,750 00	16,000 00	8,000 00	420 00
Dracut,	1,004 99	200 00	-	-	-	-	-	-	-	-
Dunstable,	1,429 99	-	-	-	-	-	-	-	-	-
Everett,	-	-	-	-	-	-	-	-	-	-
Frammingham,	-	-	-	-	1	15	-	1,200 00	-	-
Groton,	-	-	-	-	-	-	-	-	-	-
Holliston,	1,079 99	-	2	193	-	-	137,300 00	-	-	-

NANTUCKET COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average mem- bership.	No. graduated from gram- mar schools.
Nantucket,	2,930	\$3,324,382	11	412	300	514	1	62	273	395	373	.94	27

NORFOLK COUNTY.

Avon,	1,901	\$956,341	9	412	309	434	2	20	323	364	339	.98	22
Bellingham,	1,686	814,430	10	313	228	304	—	5	220	260	240	.92	13
Braintree,	6,879	5,641,048	33	1,261	914	1,599	92	153	915	1,355	1,225	.90	95
Brookline,	23,436	95,957,900	98	3,614	2,655	4,307	360	324	2,573	3,755	3,464	.92	200
Canton,	4,702	3,944,165	17	831	669	662	7	60	426	576	531	.92	38
Conasset,	2,727	7,148,207	11	443	327	469	—	59	305	429	398	.93	32
Dedham,	7,774	12,053,818	40	1,396	1,060	1,740	175	183	1,013	1,607	1,480	.92	108
Dover,	636	1,176,136	6	129	100	135	2	8	96	109	102	.93	15
Foxborough,	3,364	2,206,004	16	533	393	620	1	62	472	574	524	.91	34
Franklin,	5,244	3,657,760	21	1,043	762	1,141	2	113	765	945	842	.89	37
Holbrook,	2,509	1,367,653	13	488	337	586	12	24	375	496	456	.92	31
Hyde Park,	14,510	13,605,530	43	2,649	2,063	1,922	—	298	1,264	1,833	1,719	.94	124

SCHOOL RETURNS.

Medfield,	3,314	1,546,108	7	239	176	276	11	83	172	246	233	.94	15
Medway,	2,650	1,346,855	12	408	303	495	1	42	366	445	411	.92	23
Mills,	1,252	753,625	7	262	174	263	-	36	181	243	225	.93	19
Milton,	7,054	22,769,100	44	1,330	977	1,508	119	172	882	1,346	1,244	.92	86
Needham,	4,284	5,187,283	24	796	585	905	3	78	589	857	796	.92	62
Norfolk,	1,089	777,944	5	150	112	157	3	12	93	139	127	.91	4
Norwood,	6,731	6,012,385	33	1,446	1,057	1,539	11	152	989	1,471	1,380	.94	98
Plainville,	1,300	729,609	7	208	142	233	1	25	142	201	184	.91	16
Quincy,	28,076	27,170,555	115	7,258	5,845	6,238	3	261	4,386	5,670	5,201	.92	435
Randolph,	4,034	1,977,350	16	707	589	729	5	42	506	650	623	.96	57
Sharon,	2,085	2,537,980	11	346	246	388	1	40	253	326	293	.90	28
Stoughton,	5,959	3,436,563	23	991	719	913	14	71	637	836	771	.92	30
Walpole,	4,003	4,102,944	21	807	561	859	4	74	781	791	735	.93	47
Wellesley,	6,189	13,546,940	24	774	614	924	20	127	619	873	812	.93	48
Westwood,	1,136	2,159,112	6	241	173	221	-	6	143	193	177	.91	22
Weymouth,	11,585	7,269,084	54	2,028	1,548	2,260	23	204	1,488	2,144	2,077	.97	140
Wrentham,	1,428	1,154,470	8	223	156	229	-	25	204	216	193	.90	9
Totals,	167,537	\$251,006,899	734	31,326	23,794	32,056	872	2,709	21,178	28,950	26,802	.93	1,888

NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		TEACHERS AND TEACHERS' WAGES.		LENGTH OF SCHOOLING.		HIGH SCHOOLS.						Expenditures for high school support.	
	Men.	Women.	In high schools.	In elementary schools.	No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.	No. of graduates.		Length of schooling.
Nantucket.	1	17	1	—	4	\$100 00	\$33 50	107-4	9-15	1	4	74	26	11	10	\$3,300 00

NORFOLK COUNTY — CONTINUED.

Avon.	1	9	2	—	4	\$102 56	\$42 90	81-9	9-2	1	2	60	23	5	9-15	\$1,961 98
Bellingham.	—	10	—	—	6	—	41 44	92-5	9-5	—	—	—	—	—	—	—
Braintree.	2	39	6	1	20	110 00	49 54	312-12	9-10	1	6	181	85	14	9-13	6,938 34
Brookline.	15	137	15	2	62	211 00	75 61	950-12	9-14	1	21	476	196	59	9-14	43,328 44
Canton.	1	18	3	—	6	150 00	53 20	170	10	1	3	67	33	12	10	3,539 74
Cohasset.	1	14	4	1	8	174 00	54 60	110	10	1	5	65	26	17	10	5,121 43
Dedham.	5	51	6	2	37	150 00	65 00	367-13	9-4	1	9	202	65	37	9-4	11,318 88
Dover.	1	6	1	1	4	62 41	50 49	55-19	9-7	1	1	10	14	2	9-14	866 68
Foxborough.	1	17	3	1	3	138 95	44 92	138-16	8-14	1	3	74	29	10	9-5	3,415 52
Franklin.	2	23	3	2	8	65 33	48 48	184-17	8-16	1	4	104	42	14	9-11	4,500 00
Holbrook.	1	13	3	—	8	120 00	45 15	119-16	9-4	1	2	80	29	7	9-6	2,000 00
Hyde Park.	10	44	13	4	19	137 50	54 72	362-14	9-3	1	14	379	112	59	9-5	14,038 11

SCHOOL RETURNS.

Medfield,	1	7	2	-	4	98 00	46 91	67-5	9-14	1	2	31	14	-	9-15	1,941 22
Medway,	1	13	3	-	9	95 00	43 00	106-13	8-18	1	3	48	13	5	9-17	2,270 00
Millis,	1	7	2	-	4	73 88	41 75	61-15	8-16	1	2	43	16	8	9-13	1,584 64
Milton,	5	55	6	-	39	176 39	73 21	396-17	9	1	9	163	60	24	9-2	15,600 00
Needham,	2	27	5	2	10	115 00	49 63	223-8	9-6	1	5	117	33	27	9-8	5,695 15
Norfolk,	1	4	1	-	3	70 00	45 00	44-8	8-17	1	1	20	4	8	9-10	1,244 50
Norwood,	2	38	7	3	22	132 80	61 52	301-17	9-3	1	7	135	33	28	9-9	7,403 39
Plainville,	1	8	3	-	4	107 50	42 25	64-15	9-5	1	3	33	15	9	9-15	2,367 64
Quincy,	16	132	16	1	62	125 79	63 92	1,064	9-5	1	22	742	303	95	9-15	25,623 60
Randolph,	3	15	3	-	6	119 29	46 80	146-13	9-3	1	3	90	39	7	8-18	3,284 83
Sharon,	1	12	3	-	7	120 00	50 00	110	10	1	3	66	28	10	10	2,700 00
Stoughton,	1	25	3	-	9	150 00	49 68	189-19	8-13	1	4	69	26	13	9-13	3,726 00
Walpole,	4	22	4	-	14	84 50	51 11	203-4	9-14	1	5	123	45	16	9-16	5,615 00
Wellesley,	1	39	6	3	21	220 00	62 43	213-12	8-18	1	6	143	43	28	9-15	9,265 17
Westwood,	1	5	-	-	6	90 00	52 60	55-17	9-6	-	-	-	-	-	-	-
Weymouth,	7	57	7	-	29	99 28	48 77	514-7	9-7	1	9	250	108	42	9-14	10,574 00
Wrentham,	1	9	3	-	6	110 00	43 11	76-10	9-11	1	3	36	18	12	10	2,401 67
Totals,	89	856	133	23	441	\$138 25	\$59 20	6,787-13	9-5	27	157	3,807	1,452	568	9-12	\$198,345 93

NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.							Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and truant service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.			
Nantucket,	\$6,686 50	\$80 00	\$1,137 60	\$34 90	—	\$751 58	\$349 41	\$9,039 99	\$307 20	\$8,732 79

NORFOLK COUNTY — CONTINUED.

Avon,	\$4,918 00	—	\$1,197 00	\$105 00	\$400 00	\$547 98	\$567 74	\$7,735 72	\$1,924 70	\$5,811 02
Bellingham,	4,609 00	\$1,181 20	1,486 88	—	644 65	412 67	110 91	8,445 31	1,737 65	6,707 66
Braintree,	21,872 98	1,682 50	5,226 70	130 00	1,600 00	1,892 01	1,543 34	33,947 48	468 00	33,479 48
Brookline,	144,878 99	2,174 75	27,245 60	3,223 38	4,000 00	14,405 29	11,242 70	207,170 71	—	207,170 71
Canton,	11,801 25	115 00	3,220 17	25 00	1,800 00	1,963 34	40 00	18,964 76	259 50	18,705 26
Cohasset,	10,443 00	3,064 50	2,148 38	115 00	750 00	1,052 19	433 90	18,006 97	37 84	17,969 13
Dedham,	40,284 70	511 41	7,403 48	100 00	2,200 00	3,235 85	998 74	54,734 18	2,028 43	52,705 75
Dover,	3,856 63	1,130 34	631 28	202 26	285 00	266 13	228 35	6,599 99	1,678 44	4,921 55
Foxborough,	8,834 47	1,099 60	3,577 35	282 35	900 00	699 13	473 97	15,866 87	1,627 12	14,239 75
Franklin,	13,466 01	2,890 95	4,202 53	—	1,000 00	2,616 57	645 62	24,821 68	1,022 55	23,799 13
Holbrook,	6,790 30	—	1,809 03	150 00	500 00	501 41	799 04	10,549 78	1,433 48	9,116 30
Hyde Park,	39,631 96	—	8,903 97	250 00	2,558 34	4,640 78	6,002 74	61,987 79	—	61,987 79

SCHOOL RETURNS.

Medfield,	4,981 86	253 00	973 39	105 00	625 00	689 13	326 80	7,954 18	1,954 18	6,000 00
Medway,	6,418 60	1,033 50	1,125 17	16 00	600 00	535 74	1,454 78	11,183 79	1,235 99	9,947 80
Mills,	3,425 45	1,001 50	918 64	70 00	500 00	352 76	143 89	6,412 24	1,954 36	4,457 88
Milton,	47,724 43	1,631 50	10,495 99	505 83	2,475 00	3,889 37	1,612 72	68,334 84	-	68,334 84
Needham,	16,387 78	446 00	3,810 84	30 00	1,000 00	1,210 83	1,551 47	24,436 92	459 50	23,977 42
Norfolk,	3,007 75	1,273 91	554 22	112 50	500 00	202 93	15 62	5,666 93	1,688 06	4,028 87
Norwood,	26,214 10	551 75	6,238 09	170 00	2,000 00	2,682 35	2,356 48	40,212 77	172 00	40,040 77
Plainville,	4,627 25	742 50	1,479 15	128 75	472 50	441 41	252 62	8,144 18	1,719 25	6,424 93
Quincy,	98,186 20	1,243 80	16,941 76	900 00	2,500 00	8,063 91	2,097 83	129,933 50	300 26	129,633 24
Randolph,	10,582 84	361 50	1,343 87	340 00	600 00	1,395 60	1,044 34	15,668 15	1,680 73	13,987 42
Sharon,	8,732 03	87 70	1,673 80	45 00	360 00	760 56	15 00	11,674 09	2,143 19	9,530 90
Stoughton,	13,176 75	233 00	3,205 07	268 47	700 00	1,996 36	1,016 60	20,596 25	717 00	19,879 25
Walpole,	15,566 01	1,436 00	3,699 11	25 00	1,133 33	1,884 84	1,244 43	24,988 72	308 50	24,680 22
Wellesley,	25,785 00	475 00	6,012 00	80 50	1,500 00	2,560 91	1,321 28	37,734 69	246 10	37,488 59
Westwood,	5,145 80	928 50	935 55	134 00	500 00	327 85	167 81	8,139 21	1,246 91	6,892 30
Weymouth,	36,380 72	2,110 00	8,400 00	523 10	2,000 00	3,643 93	674 97	53,732 72	108 00	53,624 72
Wrentham,	5,014 10	1,026 80	1,090 67	100 00	480 00	538 26	208 10	8,457 93	1,114 53	7,343 40
Totals,	\$642,743 61	\$28,686 21	\$135,949 69	\$8,137 14	\$34,583 82	\$63,410 09	\$38,591 79	\$952,102 35	\$29,216 27	\$922,886 08

NANTUCKET COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.			Principal.	Income.	
Nantucket,	-	\$468 81	\$764 07	-	\$9,965 67	-	-	\$307 20

NORFOLK COUNTY — CONTINUED.

Avon,	\$10,000 00	\$60 00	\$485 14	\$10,545 14	\$10,545 14	\$16,356 16	-	\$293 55
Bellingham,	-	-	27 50	27 50	27 50	6,735 16	-	913 14
Braintree,	-	270 00	480 86	750 86	750 86	34,230 34	\$300 00	-
Brookline,	-	1,359 18	7,053 54	8,412 72	8,412 72	215,583 43	-	-
Canton,	-	-	785 77	785 77	785 77	19,491 03	-	624 12
Cohasset,	-	-	2,141 28	2,141 28	2,141 28	20,110 41	1,000 00	511 59
Dedham,	-	834 80	2,399 60	3,234 40	3,234 40	55,940 15	-	-
Dover,	-	-	428 51	428 51	428 51	5,350 06	-	-
Foxborough,	-	150 00	373 05	523 05	523 05	14,762 80	-	717 36
Franklin,	-	161 73	823 97	985 70	985 70	24,784 83	-	724 24
Holbrook,	-	600 00	300 00	900 00	900 00	10,016 30	-	-
Hyde Park,	-	2,000 00	4,002 74	6,002 74	6,002 74	67,990 53	-	-

SCHOOL RETURNS.

Medfield,	281 19	281 19	281 19	6,281 19	3,540 00	141 60	-
Medway,	457 80	600 33	600 33	10,548 13	-	-	-
Millis,	119 78	991 98	991 98	5,449 86	-	-	-
Milton,	3,611 72	8,797 74	8,797 74	77,132 58	-	-	-
Needham,	1,373 68	2,994 85	2,994 85	26,972 27	6,000 00	-	-
Norfolk,	25 00	80 57	80 57	4,109 44	-	-	170 89
Norwood,	2,103 29	1,164 76	26,435 94	66,476 71	-	-	335 12
Plainville,	-	-	-	6,424 93	727 30	29 09	-
Quincy,	3,035 23	2,852 96	126,688 60	256,321 84	1,000 00	40 00	-
Randolph,	2,310 97	430 91	2,741 88	16,729 30	19,212 66	967 26	493 77
Sharon,	-	205 00	205 00	9,735 90	12,671 78	682 69	-
Stoughton,	1,019 93	497 28	1,517 21	21,396 46	1,000 00	36 55	-
Walpole,	-	1,641 27	31,590 62	56,270 84	-	-	638 66
Wellesley,	-	1,882 44	56,183 08	93,671 67	-	-	2 50
Westwood,	656 52	141 73	798 25	7,690 55	1,000 00	40 00	666 64
Weymouth,	-	1,928 36	55,123 31	108,748 03	-	-	291 70
Wrentham,	-	295 61	295 61	7,639 01	1,090 96	61 96	-
Totals,	\$22,161 08	\$36,459 51	\$350,063 83	\$1,272,949 91	\$53,942 70	\$2,336 99	\$6,383 28

BOARD OF EDUCATION.

PLYMOUTH COUNTY.

TOWNS AND CITIES.	Population - State Census of 1905.	Valuation - May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils of all ages in the public schools during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average membership.	No. graduated from gram- mar schools.
Abington,	9,081	\$2,781,295	19	469	331	992	10	138	666	927	859	.93	72
Bridgewater,	9,754	3,247,381	25	714	594	937	41	87	577	831	756	.91	41
Brockton,	47,794	37,408,333	181	8,480	6,218	8,799	19	913	5,799	8,115	7,606	.94	442
Carver,	1,410	1,319,350	10	208	163	217	1	5	171	191	162	.85	15
Duxbury,	2,028	2,142,747	10	239	173	247	5	40	155	230	206	.90	9
East Bridgewater,	3,169	1,733,646	14	548	387	608	1	65	411	561	519	.93	37
Halifax,	494	469,237	3	83	67	95	1	5	76	79	67	.85	5
Hanover,	2,176	1,423,645	11	359	261	405	8	46	264	371	339	.91	20
Hanson,	1,490	1,253,490	8	286	206	245	3	3	177	219	194	.89	11
Hingham,	4,819	5,809,762	20	749	527	893	1	143	520	826	779	.94	51
Hull,	2,060	5,084,970	8	191	143	250	1	25	168	221	209	.94	20
Kingston,	2,205	1,669,180	11	395	270	395	1	39	288	373	347	.93	17
Lakeville,	912	663,088	6	141	116	155	1	2	120	138	125	.91	-
Marion,	1,029	2,541,610	6	142	92	135	1	5	93	125	117	.94	11
Marshfield,	1,763	1,841,430	11	242	177	291	3	49	177	263	235	.89	22
Mattapoisett,	1,180	1,570,395	7	219	186	197	2	11	152	187	173	.93	11
Middleborough,	6,888	4,410,609	35	1,260	904	1,501	1	169	1,004	1,261	1,172	.93	62
Norwell,	1,534	873,069	7	237	168	257	1	30	167	233	205	.88	18
Pembroke,	1,261	950,845	7	191	136	209	1	12	142	174	152	.88	8
Plymouth,	11,119	10,263,593	50	1,973	1,408	2,018	1	150	1,394	1,878	1,756	.94	55

Plympton,	514	326,773	3	73	56	66	1	11	45	49	42	.86	4
Rochester,	1,181	623,905	6	164	117	165	1	2	130	137	122	.89	10
Rockland,	6,287	3,759,117	25	1,059	754	1,197	11	154	779	1,130	1,067	.94	74
Scituate,	2,597	4,191,570	12	427	354	514	-	67	447	451	415	.92	28
Wareham,	3,660	3,642,522	21	483	483	628	-	73	427	577	530	.92	40.
West Bridgewater,	2,006	1,188,741	10	388	288	352	1	5	259	348	322	.92	23
Whitman,	6,521	4,536,965	28	1,260	889	1,346	2	139	901	1,284	1,204	.94	55
Totals,	127,932	\$105,727,268	554	21,030	15,468	23,216	111	2,388	15,509	21,179	19,680	.93	1,161

SUFFOLK COUNTY.

Boston,	595,380	\$1,313,471,557	1,870	104,150	71,529	106,370	3,058	9,784	60,236	94,903	86,129	.91	4,948
Chelsea,	37,289	26,411,450	97	7,440	6,996	7,029	-	566	5,013	6,543	6,047	.92	370
Revere,	12,659	14,352,175	72	3,203	2,136	3,150	3	294	2,076	2,861	2,759	.93	204
Winthrop,	7,034	10,078,075	31	1,398	987	1,645	-	235	1,036	1,483	1,365	.93	91
Totals,	652,362	\$1,364,313,257	2,070	116,191	81,648	118,194	3,061	10,879	68,361	105,890	96,300	.91	5,613

PLYMOUTH COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.		LENGTH OF SCHOOLING.		HIGH SCHOOLS.						Expenditures for high school support.		
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of pupils admitted to the freshman class.		No. of graduates.	Length of schooling.
			In high schools.	In elementary schools.											
Abington,	4	23	7	1	\$97 50	\$50 87	167-16	8-16	1	8	221	69	31	9-10	\$7,989 08
Bridgewater,	3	29	6	1	156 66	53 92	226-14	9-1	1	6	106	33	21	9-14	7,405 74
Brockton,	17	209	22	140	175 31	60 85	1,665-4	9-2	1	29	835	349	100	9-15	47,936 06
Carver,	3	9	1	5	48 66	38 50	86-18	8-14	1	2	20	6	6	9-16	1,400 00
Duxbury,	1	11	1	4	100 00	43 35	89-16	8-19	1	3	63	14	6	9-14	1,650 00
E. Bridgewater,	1	16	3	13	100 00	47 57	120-11	8-12	1	3	68	23	6	9-11	2,599 25
Halifax,	—	3	—	1	—	49 00	25-1	8-7	—	—	—	—	—	—	—
Hanover,	2	11	—	1	81 96	43 93	100-4	9-2	1	3	81	25	16	9-6	2,470 20
Hanson,	—	8	—	3	—	44 48	70	8-15	—	—	—	—	—	—	—
Hingham,	5	22	6	12	124 00	52 95	200	10	1	7	196	67	51	10	8,873 38
Hull,	2	6	—	2	100 00	55 00	76-8	9-11	—	—	—	—	—	—	—
Kingston,	1	13	2	8	110 00	45 85	97-15	8-18	1	4	67	27	9	9-16	3,476 92
Lakeville,	—	6	—	4	—	41 36	52	8-14	—	—	—	—	—	—	—
Marion,	1	5	—	2	60 00	44 80	54	9	1 ²	6	68	20	12	9-7	11,000 00
Marshfield,	1	11	3	7	90 00	42 00	96-4	8-15	1	2	54	19	8	9-15	2,935 08
Mattapoisett,	—	7	—	3	—	45 57	64-12	9-4	—	—	—	—	—	—	—
Middleborough,	5	36	4	9	98 00	45 30	315	9-9	1	7	200	72	27	10	7,716 00
Norwell,	1	8	3	4	90 00	43 87	67	9-11	1	3	56	18	4	10	2,970 48
Pembroke,	1	7	1	3	64 87	37 66	59	8-9	1	1	27	8	—	8-7	1,351 86
Plymouth,	4	52	5	26	102 50	51 41	477-14	9-11	1	6	150	43	22	9-13	6,900 00

Plympton,	3	—	—	—	39 54	26-5	8-15	—	—	—	—	—	—	—	—	—	—	—	—
Rochester,	1	—	—	—	40 00	52-19	8-16	—	—	—	—	—	—	—	—	—	—	—	—
Rockland,	5	—	—	—	50 46	239-6	9-12	1	1	7	197	79	23	—	—	—	—	—	—
Scituate,	27	—	—	—	58 00	114	9-10	1	1	3	67	27	11	10	—	—	—	—	—
Wareham,	13	—	—	—	125 00	190	9-1	1	1	3	60	35	2	10	—	—	—	—	—
W. Bridgewater,	1	—	—	—	44 07	86-9	8-13	1	1	10	26	12	5	8-17	—	—	—	—	—
Whitman,	11	—	—	—	46 46	263-10	9-8	1	1	7	214	82	23	9-10	—	—	—	—	—
	33	—	—	—	54 94														
Totals,	61	82	13	354	\$421 39	5,084-6	9-4	20	120	2,776	1,028	377	9-12	\$137,890 58					

SUFFOLK COUNTY -- CONTINUED.

Boston,	302	2,197	167	105	1,759	\$217 95	\$73 14	17,531	9-8	14	298	8,591	3,446	1,809	130-4	\$674,048 51
Chelsea,	9	186	10	2	98 ⁴	171 67 ⁴	71 54 ⁴	1,213-18 ⁴	9-5 ⁴	1	19	518	227 ⁴	72	8-9 ⁴	24,000 00
Revere,	3	82	5	6	31	145 00	56 66	625-15	9-4	1	8	243	117	22	9-7	8,513 00
Winthrop,	4	36	7	2	26	156 25	64 10	288-6	9-6	1	9	202	89	27	9-6	11,425 00
Totals,	318	2,501	189	115	1,914	\$215 15	\$72 35	19,658-19	9-10	17	334	9,554	3,879	1,930	9-5	\$717,986 51

⁴ Estimated.

³ Howard Seminary.

² Tabor Academy.

¹ Partridge Academy.

PLYMOUTH COUNTY --- CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.	School aid and transient service.	Superintendent and assistants.	Fuel and care of school premises.			
Abington,	\$16,047 25	\$630 00	\$3,024 82	\$340 00	\$1,033 33	\$2,069 48	\$1,548 26	\$24,983 14	\$1,193 00	\$23,800 14			
Bridgewater,	23,448 00	882 57	1,776 45	-	1,033 33	1,486 21	405 59	29,032 15	7,767 50	21,264 65			
Brookton,	160,760 05	125 00	38,717 71	2,362 00	4,300 00	14,779 64	7,465 94	228,510 34	304 77	228,205 57			
Carver,	4,156 95	68 00	553 38	191 00	600 00	484 77	23 00	6,077 10	1,173 68	4,903 42			
Duxbury,	5,160 33	-	794 72	48 50	500 00	303 64	225 49	7,032 68	1,545 28	5,487 40			
East Bridgewater,	8,392 55	623 00	1,658 97	-	700 00	818 39	338 99	12,531 90	1,789 42	10,742 48			
Halifax,	1,343 46	1,055 56	382 58	10 00	210 00	74 13	89 75	3,115 48	1,273 16	1,842 32			
Hanover,	6,716 30	589 00	1,206 78	130 00	520 00	682 18	52 64	9,896 90	1,384 02	8,512 88			
Hanson,	4,471 50	440 50	201 31	179 58	520 00	493 02	370 84	6,676 75	1,528 09	5,148 66			
Hingham,	18,457 50	950 00	4,900 85	115 00	1,300 00	1,806 32	1,435 35	28,965 02	1,345 50	27,619 52			
Hull,	5,328 25	1,840 65	2,247 22	235 00	250 00	654 89	680 82	11,236 83	-	11,236 83			
Kingston,	6,999 00	516 55	1,333 46	148 05	630 00	673 13	383 80	10,683 99	2,064 40	9,039 99			
Lakeville,	3,045 50	615 00	1,82 05	13 25	450 00	125 87	43 97	4,476 54	1,644 00	2,412 09			
Marion,	2,890 00	525 05	538 96	183 50	700 00	780 22	41 29	5,669 02	1,034 09	4,634 93			
Marshfield,	5,444 16	940 20	316 15	143 50	500 00	593 16	324 75	8,261 25	1,364 67	6,897 25			
Mattapoisett,	3,307 00	1,140 76	989 49	94 25	350 00	415 40	113 73	6,410 63	1,053 96	5,356 67			
Middleborough,	20,484 50	1,910 12	4,217 59	150 00	2,000 00	1,829 38	470 45	31,062 04	1,594 93	29,467 11			
Norwell,	4,269 50	2,544 50	503 75	101 50	520 00	327 77	100 08	8,367 10	2,438 16	5,928 94			
Pembroke,	2,986 73	240 00	668 25	56 00	525 00	283 58	20 85	4,780 41	1,457 05	3,323 36			
Plymouth,	32,896 74	851 18	7,472 23	100 00	2,000 00	2,515 54	1,103 17	46,938 86	18 25	46,920 61			

Plympton,	1,327 84	5 90	175 24	50 00	211 66	127 18	41 38	1,939 20	1,136 67	802 53
Rochester,	3,234 87	516 00	197 94	65 93	450 00	188 88	38 08	4,691 70	1,881 70	2,810 00
Rockland,	18,092 62	88 85	3,604 25	--	1,000 00	2,116 28	1,302 95	26,204 95	188 75	26,016 20
Scituate,	8,560 39	4,144 00	2,189 92	250 00	500 00	1,517 56	218 57	17,380 44	59 50	17,320 94
Wareham,	11,161 25	1,022 75	2,153 64	268 05	1,001 25	1,551 66	204 67	17,363 27	965 40	16,397 87
West Bridgewater,	5,009 47	743 63	939 91	111 50	547 64	263 87	159 20	7,775 22	1,466 69	6,308 53
Whitman,	20,701 30	--	4,779 96	330 00	1,000 00	2,858 04	1,740 30	31,409 60	1,130 74	30,278 86
Totals,	\$404,693 01	\$23,308 77	\$85,728 48	\$5,676 61	\$23,352 21	\$39,830 19	\$18,893 91	\$601,483 18	\$38,803 43	\$562,679 75

SUFFOLK COUNTY — CONTINUED.

Boston,	\$2,854,107 67	\$508 75	\$380,733 14	\$67,615 76	\$32,837 50	\$95,862 15	\$85,482 93	\$3,517,147 90	\$58,381 81	\$3,458,766 09
Chelsea,	127,610 75	45 00 ¹	22,019 04	2,325 00	3,400 00	9,958 25	3,521 15	168,879 19	265 44	168,613 75
Revere,	52,387 38	9 00	11,348 33	941 68	2,116 66	7,155 90	4,934 97	78,893 92	55 50	78,838 42
Winthrop,	30,030 10	225 00	5,193 05	125 00	2,040 00	2,779 70	2,950 19	43,343 04	--	43,343 04
Totals,	\$3,064,135 90	\$787 75	\$419,293 56	\$71,007 44	\$40,394 16	\$115,756 00	\$96,889 24	\$3,808,264 05	\$58,702 75	\$3,749,561 30

¹ Estimated.

PLYMOUTH COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools and for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Abington,	-	\$1,426 96	-	\$1,426 96	-	\$1,426 96	\$25,227 10	-	-	\$809 74
Bridgewater,	-	900 00	\$453 76	1,353 76	-	1,353 76	22,618 41	\$6,300 00	\$312 12	2,276 04
Brookton,	\$60,105 95	7,413 77	11,605 58	79,125 30	-	79,125 30	307,330 87	-	-	-
Carver,	-	-	179 59	179 59	-	179 59	5,083 01	8,000 00	150 00	-
Duxbury,	-	180 00	230 35	410 35	-	410 35	5,897 75	-	-	345 67
East Bridgewater,	-	546 43	435 39	981 82	-	981 82	11,724 30	-	-	585 49
Halifax,	-	132 80	-	132 80	-	132 80	1,975 12	-	-	-
Hanover,	-	1,049 96	330 09	1,380 05	-	1,380 05	9,892 93	-	-	271 36
Hanson,	-	1,015 80	144 19	1,159 99	-	1,159 99	6,308 65	-	-	-
Hingham,	-	200 00	598 01	798 01	-	798 01	28,417 53	1,000 00	37 84	712 23
Hull,	3,123 86	-	1,206 27	4,330 13	-	4,330 13	15,566 96	-	-	-
Kingston,	-	-	176 96	176 96	-	176 96	9,216 95	-	-	212 81
Lakeville,	-	-	-	-	-	-	2,412 09	-	-	-
Marion,	-	-	613 11	613 11	-	613 11	5,248 04	-	-	202 18
Marshfield,	-	-	235 09	235 09	-	235 09	7,132 34	-	-	417 97
Mattapoisett,	-	146 21	335 69	481 90	-	481 90	5,838 57	-	-	-
Middleborough,	32,650 95	300 00	1,025 80	33,976 75	-	33,976 75	63,443 86	9,358 50	-	-
Norwell,	-	221 10	37 10	258 20	-	258 20	6,187 14	-	-	346 76
Pembroke,	1,381 33	179 90	389 21	1,950 44	-	1,950 44	5,273 80	-	-	117 08
Plymouth,	-	-	2,563 07	2,563 07	-	2,563 07	49,483 68	365 00	18 25	-

Plympton,	36 00	4 17	40 17	—	—	842 70	—	—	97 38
Rochester,	—	186 83	2,468 95	\$1,591 90	877 05	3,687 05	7,000 00	395 05	267 99
Rockland,	1,000 00	638 42	1,638 42	—	1,638 42	27,654 62	—	—	—
Scituate,	80 70	513 73	594 43	—	594 43	17,915 37	—	—	325 75
Wareham,	959 47	268 80	1,228 27	—	1,228 27	17,626 14	—	—	—
West Bridgewater,	575 27	291 49	866 76	—	866 76	7,175 29	—	—	909 42
Whitman,	—	245 29	245 29	—	245 29	30,524 15	—	—	—
Totals,	\$99,544 21	\$22,707 99	\$138,616 57	\$1,591 90	\$137,024 67	\$699,704 42	\$32,023 50	\$913 26	\$7,897 87

SUFFOLK COUNTY — CONTINUED.

Boston,	\$841,905 04	—	\$1,192,205 04	—	\$1,192,205 04	\$4,650,971 13	\$128,075 00	\$1,945 78	\$50,573 38
Chelsea,	54,252 09	\$12,970 24	67,222 33	—	67,222 33	235,835 08	—	—	—
Revere,	76,187 86	930 53	84,790 76	—	84,790 76	163,629 18	—	—	1,330 00
Winthrop,	74,817 32	1,307 18	79,536 10	—	79,536 10	122,879 14	—	—	659 55
Totals,	\$1,047,162 31	\$15,207 95	\$1,423,754 23	—	\$1,423,754 23	\$5,173,315 43	\$128,075 00	\$4,945 78	\$52,562 93

PLYMOUTH COUNTY — CONCLUDED.

TOWNS AND CITIES.	Town's share of school fund income paid Jan. 25, 1908.	Amount of voluntary contributions expended on the public schools but not included in expenditures by the town or city.	ACADEMIES AND PRIVATE SCHOOLS.				ESTIMATED AMOUNT OF TUITION PAID IN —		Principal.	Income.
			No. of academies.	No. of different academy pupils attending during the year.	No. of private schools.	No. of different private school pupils attending during the year.	Academies.	Private schools.		
Abington,	—	—	—	—	—	—	—	—	—	
Bridgewater,	—	\$100 00	—	—	—	—	—	\$15,000 00	—	
Brockton,	—	600 00	—	3	—	—	—	—	—	
Carver,	\$847 50	—	—	—	—	—	—	—	—	
Duxbury,	708 00	1,086 75	1	63	1	40	—	3,300 00	\$1,200 00	
East Bridgewater,	1,079 99	—	—	—	—	—	—	—	—	
Halifax,	1,058 00	9 50	—	—	—	—	—	—	—	
Hanover,	847 49	—	—	—	—	—	—	—	—	
Hanson,	708 00	—	—	—	—	—	—	—	—	
Hingham,	—	—	1	41	—	—	—	38,000 00	729 00	
Hull,	—	—	—	—	—	—	—	—	—	
Kingston,	1,079 99	35 00	—	—	—	—	—	—	—	
Lakeville,	858 00	—	—	—	—	—	—	—	—	
Marion,	707 99	—	1	70	—	—	—	250,000 00	10,000 00	
Marshfield,	847 49	—	—	—	—	—	—	—	—	
Mattapoisett,	1,079 99	—	—	—	—	—	—	—	—	
Middleborough,	—	—	1	23	—	—	—	—	—	
Norwell,	1,229 99	—	—	—	—	—	—	—	—	
Pembroke,	300 00	75 00	—	—	—	—	—	—	—	
Plymouth,	—	—	—	—	—	—	—	—	—	

TOWNS AND CITIES.

Plympton,	1,057 99	-	-	-	-	-	-	-	-	-	-	-	-
Rochester,	997 49	-	-	-	-	-	-	-	-	-	-	-	-
Rockland,	-	-	-	-	-	-	-	-	-	-	-	-	-
Scituate,	-	-	-	-	-	-	-	-	-	-	-	-	-
Wareham,	1,079 99	-	-	-	-	41	-	4,920 00	-	145,988 94	5,755 47	-	-
West Bridgewater,	-	-	-	-	-	27	-	450 00	-	-	-	-	-
Whitman,	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals,	\$14,487 90	\$1,906 25	4	197	6	1,106	\$2,366 00	\$12,370 00	\$452,288 94	\$17,684 47			

SUFFOLK COUNTY — CONCLUDED.

Boston,	-	-	4	610	88	23,123	\$36,385 45	\$434,925 14	\$4,079,347 98	\$123,960 66
Chelsea,	-	\$900 00	-	-	2	1,365	-	-	-	-
Revere,	-	244 20	-	-	-	-	-	-	-	-
Winthrop,	-	-	-	-	-	-	-	-	-	-
Totals,	-	\$1,144 20	4	610	90	24,488	\$36,385 45	\$434,925 14	\$4,079,347 98	\$123,960 66

WORCESTER COUNTY.

TOWNS AND CITIES.	Population — State Census of 1905.	Valuation — May 1, 1907.	No. of public schools.	SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
				No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils during the school year.	No. of different pupils within the year under 5 years of age.	No. of different pupils within the year over 15 years of age.	No. of different pupils within 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average membership.	No. graduated from grammar schools.
Ashburnham,	1,851	\$941,529	11	362	273	395	4	74	271	325	291	.90	14
Athol,	7,197	4,231,198	25	1,262	924	1,297	1	172	882	1,166	1,088	.93	60
Auburn,	2,006	1,073,500	10	472	366	368	1	3	293	323	283	.88	12
Barre,	2,558	1,629,165	13	431	300	430	2	58	206	382	345	.90	22
Berlin,	906	546,880	5	182	147	186	2	4	147	153	139	.91	9
Blackstone,	5,786	2,254,020	26	1,196	926	1,264	13	40	845	1,061	981	.92	37
Bolton,	762	491,214	4	105	79	116	1	14	77	102	92	.90	7
Boylston,	649	478,651	4	126	92	120	3	2	93	108	98	.91	3
Brookfield,	2,388	1,265,651	16	359	276	439	3	46	268	367	345	.94	23
Charlton,	2,089	1,264,645	15	390	263	466	12	29	339	367	326	.89	11
Clinton,	13,105	7,945,672	46	2,416	1,952	1,973	20	165	1,398	1,895	1,782	.94	90
Dana,	763	355,899	5	118	91	134	1	4	102	116	105	.90	8
Douglas,	2,120	1,219,735	10	347	246	354	1	16	286	299	267	.89	13
Dudley,	3,818	1,557,296	15	809	559	478	15	19	299	373	333	.89	12
Fitchburg,	33,021	26,474,438	116	6,785	4,705	4,400	22	455	2,902	4,018	3,799	.94	218
Gardner,	12,012	6,996,920	38	2,217	1,787	1,774	3	235	1,114	1,598	1,465	.92	104
Grafton,	5,052	2,670,337	22	883	628	867	—	73	666	817	773	.94	47
Hardwick,	3,261	1,691,750	14	587	446	407	—	35	356	337	337	.92	25
Harvard,	1,077	1,300,889	6	167	116	140	1	3	128	125	116	.93	9
Holden,	2,640	1,435,508	16	421	333	494	1	39	349	443	398	.89	24
Hopedale,	2,048	5,165,615	12	357	244	423	13	45	242	369	339	.92	22
Hubbardston,	1,205	656,120	9	195	128	202	—	8	160	179	162	.90	11
Lancaster,	2,406	3,464,969	12	374	266	384	—	40	263	321	295	.92	23
Leicester,	3,414	2,282,556	20	710	513	804	5	58	633	662	604	.91	27

SCHOOL RETURNS.

Leominster,	14,297	10,149,855	50	2,778	1,936	2,381	17	255	1,553	2,095	1,965	.92	127
Lunenburg,	1,293	1,026,856	8	220	155	220	-	16	154	190	172	.90	12
Mendon,	922	640,330	6	143	99	166	-	13	113	153	141	.92	8
Milford,	12,105	6,675,290	44	2,100	1,454	1,901	11	159	1,225	1,701	1,621	.95	43
Millbury,	4,631	2,303,850	19	843	693	858	-	45	642	758	695	.92	42
New Braintree,	477	394,590	4	100	81	357	-	79	75	327	298	.87	-
Northborough,	1,947	1,337,291	9	337	273	357	-	43	250	327	298	.91	19
Northbridge,	7,400	3,989,228	34	1,554	1,198	1,628	-	108	1,120	1,424	1,351	.95	38
North Brookfield,	2,617	1,650,940	10	509	330	431	1	63	291	396	372	.94	13
Oakham,	519	344,014	5	96	69	105	2	7	69	88	83	.93	7
Oxford,	2,927	1,838,665	17	576	466	622	11	21	458	517	479	.93	32
Paxton,	444	350,304	3	87	66	87	1	4	64	86	74	.85	4
Petersham,	855	757,456	6	130	108	174	-	37	117	135	123	.91	10
Phillipston,	442	258,934	4	76	63	85	1	2	64	64	57	.89	5
Princeton,	907	1,034,385	9	145	100	154	-	18	104	139	128	.92	7
Royalston,	903	499,819	7	143	118	147	4	4	118	141	130	.92	8
Rutland,	1,713	712,496	6	237	199	251	1	20	195	218	196	.90	9
Shrewsbury,	1,866	1,460,329	12	293	273	344	3	34	238	310	280	.90	18
Southborough,	1,931	1,709,822	9	294	210	353	4	36	218	323	296	.92	16
Southbridge,	11,000	5,300,888	30	2,155	1,581	1,272	6	131	715	1,057	978	.93	35
Spencer,	7,121	3,597,715	28	1,208	881	1,000	10	89	659	908	843	.93	49
Sterling,	1,315	974,245	8	200	145	239	1	21	166	205	184	.90	8
Sturbridge,	1,974	987,458	12	348	287	346	3	3	273	287	255	.89	14
Sutton,	3,173	1,212,363	16	672	510	496	9	79	476	408	350	.86	16
Templeton,	3,783	1,553,352	16	720	559	673	6	56	441	587	536	.91	23
Upton,	2,024	1,075,620	9	313	251	365	-	49	236	329	303	.92	28
Uxbridge,	3,881	2,695,030	23	799	567	910	3	55	599	716	617	.86	28
Warren,	4,300	1,848,048	16	707	487	662	11	79	417	560	525	.94	30
Webster,	10,018	6,410,054	23	2,010	1,485	804	5	66	565	734	685	.93	22
Westborough,	5,378	3,174,734	15	675	498	772	5	105	491	646	596	.92	30
West Boylston,	1,571	733,732	7	202	160	205	2	24	136	199	187	.94	6
West Brookfield,	1,384	984,630	7	187	132	191	2	2	99	147	139	.95	6
Westminster,	1,348	737,115	12	245	211	258	-	23	179	240	221	.92	-
Winchendon,	5,933	3,422,140	26	1,133	707	1,148	2	98	796	1,010	930	.92	55
Worcester,	128,135	124,747,588	465	22,680	16,366	23,237	946	1,907	14,776	20,305	18,273	.90	671
Totals,	362,668	\$273,982,823	1,445	66,186	48,358	60,849	1,181	5,309	40,415	53,414	48,911	.92	2,270

WORCESTER COUNTY — CONTINUED.

TOWNS AND CITIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.			HIGH SCHOOLS.							
	Men.	Women.	NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of new pupils admitted during the year.	No. of graduates.	Length of schooling.	Expenditures for high school support.	
			In high schools.	In elementary schools.													
Ashburnham,	1	9	9	-	6	\$60 00	\$40 89	97	8-16	1	16	52	14	5	9-10	\$1,626 15	
Athol,	3	29	4	1	10	125 50	46 80	239-11	9-11	1	6	189	74	41	9-15	5,957 41	
Auburn,	1	10	-	-	-	-	43 40	90	9	1	-	-	-	-	-	-	-
Barre,	1	15	3	1	11	120 00	39 33	117	8-16	1	4	54	24	7	9-17	3,687 00	
Berlin,	1	7	2	-	1	100 00	42 56	253-10	9-14	1	3	67	24	7	10	2,600 00	
Blackstone,	1	32	2	-	1	-	44 60	36-16	9-4	1	2	26	7	4	9-17	1,644 44	
Bolton,	1	5	2	-	2	-	48 00	37-3	9-6	1	1	-	-	-	-	-	
Boylston,	1	4	2	-	2	110 00	43 13	155	9-13	1	1	51	22	10	10	2,244 16	
Brookfield,	1	16	2	-	2	90 00	34 94	126-4	8-12	1	2	42	9	-	9-16	1,639 57	
Charlton,	1	16	2	-	2	125 00	61 97	428-11	9-6	1	8	195	68	42	9-4	8,550 00	
Clinton,	4	53	5	-	12	-	40 40	44-8	8-17	1	1	-	-	-	-	-	
Dana,	5	5	1	-	3	100 00	40 22	88-10	8-17	1	1	19	13	5	9-15	1,040 00	
Douglas,	1	10	1	-	3	100 00	40 22	88-10	8-17	1	1	19	13	5	9-15	1,040 00	
Dudley,	3	17	4	-	5	143 00	39 42	132-14	8-16	1	4	23	11	6	9-18	1,421 49	
Fitchburg,	16	110	15	2	51	123 25	63 00	1,102	9-10	1	23	610	232	73	9-10	28,500 00	
Gardner,	2	51	12	-	31	142 50	58 78	343-15	9	1	12	326	76	46	9-16	15,154 00	
Grafton,	2	24	4	-	12	131 58	46 52	187-7	8-10	1	4	117	51	23	9-6	5,529 28	
Hardwick,	2	15	3	2	13	87 00	41 30	126-11	9-2	1	4	55	23	11	9-18	4,152 61	
Harvard,	5	5	-	-	5	-	45 60	46-15	9-7	1	3	37	8	4	8-15	3,000 00	
Holden,	1	17	2	-	10	107 68	52 56	133-11	8-7	1	3	69	15	8	9-11	2,384 64	
Hopedale,	1	12	2	-	6	120 00	63 40	110-10	9-4	1	2	42	17	5	10	2,802 54	
Hubbardston,	1	8	2	-	4	61 00	36 00	79	8-16	1	1	10	4	4	9-5	692 00	
Lancaster,	1	14	2	-	8	130 00	50 70	110-15	9-5	1	3	49	17	3	9-15	2,028 53	
Leicester,	2	21	4	1	13	105 00	43 19	181-1	9-1	1	4	63	19	13	9-16	3,512 26	

SCHOOL RETURNS.

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Leominster,	7	60	10	—	30	136 25	55 03	460	9-14	1	11	283	101	45	9-17	14,874 00
Lunenburg,	1	8	2	—	6	78 00	39 00	69-14	8-14	1	2	37	14	5	9-17	1,452 95
Mendon,	1	6	2	—	2	67 50	41 00	55	9-3	1	2	28	8	3	10	1,623 59
Millford,	2	48	5	—	26	125 00	49 60	384-18	8-14	1	6	146	49	23	9-18	7,558 00
Millbury,	2	22	3	—	19	105 00	41 59	167-8	8-16	1	3	97	39	13	9-18	3,075 42
New Braintree,	4	—	—	—	—	—	39 33	36-15	9-4	1	3	—	—	—	—	—
Northborough,	1	12	2	—	11	110 00	40 73	79-10	8-14	1	1	39	15	8	9-15	1,880 08
Northbridge,	1	39	4	1	27	153 00	49 00	323-10	9-10	1	5	117	36	20	10	4,800 00
North Brookfield,	1	11	3	—	1	110 00	42 54	91-7	9-2	1	3	76	12	12	8-16	2,732 68
Oakham,	5	—	—	—	—	—	40 00	40	8	1	—	—	—	—	—	—
Oxford,	1	17	2	1	13	100 00	38 12	153-2	8	1	2	33	28	3	10	1,875 00
Paxton,	3	3	—	—	3	—	32 00	28	9-6	1	—	—	—	—	—	—
Petersham,	1	7	2	1	4	100 00	44 72	55-16	9-6	1	3	37	14	—	10	2,665 00
Phillipston,	4	—	—	—	2	—	43 00	36-17	9-4	1	—	—	—	—	—	—
Princeton,	1	9	2	—	8	80 00	35 00	76-1	8-9	1	2	18	7	4	9-10	1,828 00
Royalston,	1	6	—	—	1	56 00	44 00	61-6	8-15	1	—	—	—	—	—	—
Rutland,	1	6	2	—	5	68 00	41 33	51-13	8-12	1	2	30	9	5	9-15	1,418 84
Shrewsbury,	2	18	3	—	12	81 00	39 63	100-9	8-7	1	2	31	11	2	9-12	1,689 99
Southborough,	1	13	4	1	9	100 00	44 46	80-4	8-18	1	3	38	14	7	9-15	3,229 88
Southbridge,	2	36	5	—	8	102 50	45 73	294	9-6	1	5	127	37	23	9-15	5,207 43
Spencer,	3	28	3	—	6	102 72	49 86	255-9	9-2	1	4	102	41	14	9-15	5,092 00
Sterling,	1	9	1	—	5	80 00	35 33	71-5	8-18	1	2	55	10	6	9-16	1,600 00
Sturbridge,	—	13	—	—	—	—	38 15	110	9	1	—	—	—	—	—	—
Sutton,	17	—	2	3	1	—	35 58	145	9-1	1	1	24	74	6	10	1,008 00
Templeton,	1	18	2	—	2	100 00	37 18	136-12	8-11	1	3	65	25	13	9-15	2,559 12
Upton,	1	10	3	—	7	106 31	40 04	77-19	8-10	1	3	77	27	9	9-1	2,414 58
Uxbridge,	2	23	2	1	12	100 00	41 00	200-7	8-14	1	2	47	17	5	9-16	3,366 25
Warren,	3	16	4	—	8	86 41	42 28	141-2	8-16	1	4	84	35	12	9-14	3,825 00
Webster,	2	28	5	2	14	105 00	48 66	227-3	9-17	1	5	74	24	13	9-18	6,228 00
Westborough,	2	17	4	—	7	95 00	56 73	128-9	8-11	1	4	100	34	14	9-12	4,349 58
West Boylston,	1	7	2	—	4	130 00	47 11	63-8	9-1	1	2	28	6	5	9-17	2,374 62
West Brookfield,	7	—	—	—	5	—	42 22	61-17	8-14	1	—	—	—	—	—	—
Westminster,	—	12	—	—	7	—	34 66	97	8-1	1	1	23	—	7	9	625 00
Winchendon,	2	30	5	1	24	112 44	47 34	229	8-16	1	6	140	34	16	9-15	7,552 03
Worcester,	66	560	68	18	469	152 92	65 18	4,650	10	3	86	2,341	669	247	10 10 10	121,336 42
Totals,	153	1,634	232	39	980	\$129 23	\$54 00	13,551-13	9-8	50	283	6,393	2,118	857	9-14	\$316,387 54

1 Bromfield School.

WORCESTER COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure for such support, other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Ashburnham,	\$5,350 00	\$338 00	\$999 76	\$113 50	\$600 00	\$449 47	\$143 04	\$7,993 77	\$1,595 30	\$6,398 47			
Athol,	17,233 08	1,715 45	4,055 51	29 60	2,000 00	2,522 46	3,084 95	30,641 05	1,163 30	29,477 75			
Auburn,	5,376 95	107 28	616 12	149 00	540 00	365 30	107 99	7,262 64	2,018 66	5,243 98			
Barre,	7,355 00	1,129 17	1,823 89	-	600 00	871 11	337 60	12,116 77	1,973 00	10,143 77			
Berlin,	3,558 80	261 25	718 18	73 00	257 76	239 99	144 63	5,253 61	2,648 19	2,605 42			
Blackstone,	14,652 86	-	2,000 00	60 00	888 00	692 00	53 04	18,345 90	2,688 49	15,657 41			
Bolton,	2,269 57	1,455 00	290 45	44 00	342 86	288 98	87 80	4,778 66	2,612 68	2,165 98			
Boylston,	2,264 00	2,026 30	601 12	83 00	285 72	155 02	75 03	5,490 19	2,130 15	3,360 04			
Brookfield,	7,552 84	75 00	1,623 78	180 00	750 00	506 12	182 17	10,869 91	1,824 99	9,044 92			
Charlton,	5,681 91	84 40	662 83	132 80	750 00	646 75	160 06	8,118 75	2,300 10	5,818 65			
Clinton,	32,946 55	-	6,879 27	1,400 00	2,000 00	4,114 15	2,064 78	49,404 75	-	49,404 75			
Dana,	2,245 15	806 30	598 81	90 00	417 81	275 04	31 86	4,464 97	2,258 12	2,206 85			
Douglas,	4,752 00	450 00	1,415 87	85 00	660 00	456 65	346 36	8,165 88	1,585 45	6,580 43			
Dudley,	7,881 50	-	1,656 29	83 00	686 13	447 17	461 01	11,215 10	1,553 86	9,661 24			
Fitchburg,	90,983 93	2,204 25	19,136 25	1,737 50	2,700 00	3,358 11	4,228 83	124,348 87	833 50	123,515 37			
Gardner,	29,658 68	1,033 30	6,525 04	-	2,100 00	3,745 20	1,918 41	44,980 63	278 25	44,702 38			
Grafton,	11,850 06	3,448 42	3,603 23	252 09	1,418 75	1,432 63	405 68	22,410 86	1,986 17	20,424 69			
Hardwick,	7,840 00	2,364 02	1,728 41	90 00	610 68	1,102 50	197 09	13,932 70	1,679 71	12,252 99			
Harvard,	2,145 25	3,161 15	588 01	7 00	514 20	184 86	155 62	6,755 09	1,701 94	5,053 15			
Holden,	7,412 49	384 02	856 44	90 00	800 00	333 96	155 79	10,032 70	2,409 70	7,623 00			
Hopedale,	8,689 50	273 50	2,623 51	-	673 34	603 11	674 07	13,547 03	38 50	13,508 53			
Hubbardston,	3,422 00	798 00	142 00	90 00	310 00	8 00	8 00	5,043 00	1,552 00	3,491 00			
Lancaster, ¹	7,381 25	1,146 50	2,218 46	100 00	990 00	721 84	313 32	12,871 37	-	12,871 37			
Leicester,	11,114 60	1,171 60	3,060 15	104 82	750 00	1,113 65	651 99	17,966 81	3,573 41	14,393 40			

SCHOOL RETURNS.

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Leominster,	38,743 00	2,234 13	12,414 06	1,161 80	2,200 00	6,490 61	902 46	64,146 06	1,430 36	62,715 70
Lunenburg,	4,021 86	318 00	890 07	135 54	510 00	351 63	47 00	5,954 10	1,870 63	4,083 47
Mendon,	3,030 00	616 00	589 54	—	676 33	261 84	59 99	5,543 70	2,163 65	3,380 05
Millford,	25,658 80	639 00	6,010 74	50 00	1,800 00	1,839 61	2,469 12	38,467 27	127 10	38,340 17
Millbury,	11,042 60	333 25	2,511 73	161 00	760 00	1,319 14	729 67	16,857 39	2,317 41	14,539 98
New Braintree,	1,716 40	368 75	253 25	13 75	465 00	187 00	51 48	3,055 63	1,508 00	1,547 63
Northborough,	5,514 90	1,169 05	1,220 08	108 10	514 08	567 90	166 10	9,260 21	2,009 30	7,250 91
Northbridge,	20,364 70	751 30	6,847 13	5 75	750 00	1,853 90	1,218 13	31,790 91	57 00	31,733 91
North Brookfield,	6,135 10	1,721 63	854 73	5 00	750 00	508 21	288 38	10,308 05	1,778 99	8,529 06
Oakham,	1,799 00	42 40	212 92	55 25	240 00	100 80	2 00	2,452 37	1,537 99	914 38
Oxford,	8,426 24	144 00	2,431 61	177 15	593 21	1,025 53	957 93	13,755 67	2,190 76	11,564 91
Paxton,	1,516 00	642 40	426 03	47 40	165 43	99 35	30 41	2,927 02	1,727 02	1,200 00
Petersham,	3,820 00	1,755 52	1,115 10	70 00	289 29	452 33	418 53	7,920 77	2,001 28	5,919 49
Phillipston,	1,694 70	355 00	137 60	49 00	154 81	83 65	—	2,474 76	1,312 58	1,162 18
Princeton,	3,926 48	360 80	887 56	75 00	300 00	306 99	38 70	5,895 53	1,157 48	4,738 05
Royalston,	3,193 00	1,071 00	512 07	107 50	310 02	229 38	—	5,422 97	1,934 22	3,488 75
Rutland,	2,850 75	1,383 40	852 40	40 00	400 00	263 20	61 73	5,851 48	2,004 99	3,846 49
Shrewsbury,	5,585 15	790 52	879 64	163 00	514 08	548 60	289 80	8,770 79	1,704 49	7,066 30
Southborough,	6,254 60	1,511 00	1,800 93	151 44	514 08	782 36	407 75	11,422 16	1,894 30	9,527 86
Southbridge,	18,926 93	376 45	4,194 84	136 78	900 00	1,953 23	1,216 52	27,704 75	645 00	27,059 75
Spencer,	16,608 08	804 72	4,143 87	55 09	1,600 00	1,393 78	566 61	25,173 15	539 06	24,633 09
Sterling,	4,152 00	734 55	425 93	88 05	600 00	279 15	102 86	6,382 54	2,383 81	3,998 73
Sturbridge,	5,367 45	1,397 12	899 59	50 80	620 00	357 53	22 00	8,714 49	1,974 99	6,739 50
Sutton,	5,604 75	393 00	1,251 78	173 67	960 00	527 26	296 81	9,207 27	2,240 20	6,967 07
Templeton,	7,013 87	1,363 75	1,924 53	198 62	779 19	813 25	25 00	12,118 21	2,299 03	9,819 18
Upton,	4,693 69	1,056 50	1,359 09	18 50	464 55	528 80	67 09	8,188 22	1,611 99	6,576 23
Uxbridge,	11,825 15	16 25	2,978 94	15 00	990 00	2,288 46	539 56	18,653 96	1,837 68	16,815 68
Warren,	9,622 71	2,264 25	2,246 02	64 00	1,246 64	1,102 38	320 93	16,866 93	2,870 74	13,996 19
Webster,	16,418 99	—	2,486 96	200 00	1,359 99	1,371 53	809 93	22,647 40	—	22,647 40
Westborough,	10,805 89	2,167 81	2,601 74	50 00	600 00	760 43	1,223 93	18,209 80	71 00	18,138 80
West Boylston,	4,984 85	1,989 75	1,059 63	266 50	825 00	456 61	178 88	9,761 22	2,609 00	7,152 22
West Brookfield,	3,667 65	712 25	524 15	—	465 00	380 47	271 26	6,020 78	2,135 86	3,884 92
Westminster,	3,456 00	591 00	453 28	87 04	600 00	246 02	59 65	5,492 99	1,497 49	3,995 50
Winchendon,	16,944 57	1,334 93	5,052 72	167 98	1,266 57	2,559 07	1,874 76	29,200 60	8,415 71	20,784 89
Worcester,	490,815 15	845 50	90,055 87	9,255 27	4,499 98	29,137 40	12,304 72	636,913 89	4,516 15	632,397 74
Totals,	\$1,085,828 98	\$56,677 89	\$226,929 51	\$18,443 29	\$51,328 50	\$86,326 47	\$44,007 81	\$1,569,542 45	\$106,780 73	\$1,462,761 72

1 These figures cover only eleven months.

WORCESTER COUNTY — CONTINUED.

TOWNS AND CITIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings.	Amount raised by local taxation and expended for support of the public schools and for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.					Principal.	Income.	
Ashburnham,	-	\$400 00	\$66 20	\$466 20	\$400 00	\$66 20	\$6,464 67	-	-	-
Athol,	-	150 00	494 31	644 31	-	644 31	30,122 06	\$1,000 00	-	\$309 19
Auburn,	\$5,500 00	835 20	342 58	6,677 78	-	6,677 78	11,921 76	-	-	349 77
Barre,	-	-	91 68	91 68	-	91 68	10,235 45	1,500 00	\$60 30	-
Berlin,	-	-	127 99	127 99	-	127 99	2,783 41	-	-	-
Blackstone,	-	-	1,034 75	1,034 75	-	1,034 75	16,692 16	12,000 00	584 91	-
Bolton,	-	-	25 03	25 03	-	25 03	2,191 01	-	-	-
Boylston,	-	250 00	69 32	319 32	-	319 32	3,679 36	-	-	335 89
Brookfield,	-	1,196 00	151 41	1,347 41	-	1,347 41	10,392 33	3,167 00	126 68	372 57
Charlton,	-	-	333 49	333 49	-	333 49	6,152 14	5,000 00	175 00	325 00
Clinton,	-	-	1,392 08	1,392 08	-	1,392 08	50,796 83	-	-	139 38
Dana,	-	1,398 66	-	1,398 66	-	1,398 66	3,605 51	941 33	56 48	-
Douglas,	-	-	153 92	153 92	-	153 92	6,734 35	-	-	-
Dudley,	-	-	320 32	320 32	-	320 32	9,981 56	-	-	372 20
Fitchburg,	18,992 31	-	3,924 14	22,916 45	-	22,916 45	146,431 82	-	-	-
Gardner,	-	-	3,313 81	3,313 81	-	3,313 81	48,016 19	-	-	-
Grafton,	-	760 77	334 55	1,095 32	-	1,095 32	21,520 01	-	-	-
Hardwick,	-	755 92	610 41	1,366 33	-	1,366 33	13,619 32	-	-	-
Harvard,	-	-	49 27	49 27	-	49 27	5,102 42	3,666 66	202 00	1,711 22
Holden,	-	-	429 51	429 51	-	429 51	8,052 51	-	-	204 20
Hopedale,	-	143 04	808 14	951 18	-	951 18	14,459 71	-	-	555 56
Hubbardston,	-	-	262 00	262 00	-	262 00	3,753 00	3,491 00	1,200 00	72 00
Lancaster,	-	2,426 88	272 72	2,699 60	-	2,699 60	15,570 97	-	-	-
Leicester,	-	-	379 44	379 44	127 15	252 29	14,645 69	-	-	715 31

SCHOOL RETURNS.

Leominster,	5,327 08	1,922 64	7,249 72	7,249 72	69,965 42	13,000 00	570 00	-
Lunenburg,	-	418 25	418 25	418 25	4,501 72	-	-	-
Mendon,	-	163 32	163 32	163 32	3,543 37	-	-	181 56
Milford,	-	1,659 72	1,659 72	1,659 72	39,999 89	-	-	-
Millbury,	552 11	684 50	1,236 61	1,236 61	15,776 59	-	-	-
New Braintree,	-	95 00	95 00	95 00	1,642 63	-	-	-
Northborough,	-	649 09	649 09	649 09	7,900 00	-	-	647 74
Northbridge,	1,041 85	1,587 63	2,629 48	2,629 48	34,363 39	-	-	378 07
North Brookfield,	-	222 18	222 18	222 18	8,751 24	-	-	2 02
Oakham,	-	10 16	10 16	10 16	924 54	-	-	-
Oxford,	-	567 03	29,909 86	29,909 86	41,474 77	-	-	-
Paxton,	-	-	-	-	1,200 00	-	-	-
Petersham,	273 80	69 68	343 48	343 48	6,262 97	781 68	31 50	182 63
Phillipston,	-	62 42	62 42	62 42	1,224 60	-	-	91 85
Princeton,	266 04	214 88	480 92	480 92	5,218 97	-	-	-
Royalston,	-	127 62	127 62	127 62	3,616 37	6,500 00	304 27	145 78
Rutland,	143 93	49 00	192 93	192 93	4,039 42	-	-	100 00
Shrewsbury,	210 14	131 35	341 49	341 49	7,407 79	1,000 00	35 15	-
Southborough,	-	80 51	80 51	80 51	9,608 37	-	-	190 94
Southbridge,	35 00	667 33	702 33	702 33	27,762 08	-	-	-
Spencer,	-	2,433 29	2,433 29	2,422 43	27,055 52	-	-	772 17
Sterling,	-	272 97	272 97	272 97	4,271 70	15,043 17	601 68	143 65
Sturbridge,	-	47 73	47 73	47 73	6,787 23	-	-	843 32
Sutton,	171 77	132 88	304 65	304 65	7,271 72	2,000 00	114 00	417 59
Sutton,	-	672 95	672 95	672 95	10,492 13	-	-	486 48
Templeton,	-	286 80	286 80	286 80	6,863 03	-	-	363 12
Upton,	-	286 80	286 80	286 80	6,863 03	-	-	-
Uxbridge,	457 17	1,456 62	1,913 79	1,913 79	18,729 47	39,700 00	688 35	-
Warren,	-	586 09	586 09	586 09	14,582 28	-	-	844 72
Webster,	2,055 59	169 05	2,224 64	2,224 64	24,872 04	-	-	-
Westborough,	1,832 53	919 26	23,960 43	23,960 43	42,089 23	-	-	7,104 00
West Boylston,	-	305 08	443 24	443 24	7,595 46	-	-	-
West Brookfield,	-	100 45	307 59	307 59	4,192 51	-	-	-
Westminster,	-	151 57	251 57	251 57	4,247 07	-	-	-
Winchendon,	-	947 58	947 58	734 76	21,519 65	275,000 00	7,342 54	-
Worcester,	67,810 87	26,611 79	134,756 69	133,989 29	766,387 03	2,518 04	97 89	-
Totals, . . .	\$61,005 84	\$59,296 57	\$263,780 95	\$262,262 72	\$1,725,024 44	\$391,708 88	\$12,460 75	\$18,357 93

SCHOOL RETURNS.

Leominster,	847 49	1,000 00	1	550	25,000 00	950 00
Lunenburg,	1,229 99	6 00	1	—	—	—
Mendon,	—	—	—	—	—	—
Milford,	—	—	1	374	—	—
Millbury,	772 49	—	1	60	15,000 00	1,000 00
New Braintree,	965 00	—	—	—	—	—
Northborough,	1,079 99	—	—	—	—	—
Northbridge,	—	—	—	—	—	—
North Brookfield,	1,079 99	—	1	93	—	—
Oakham,	964 99	—	1	—	—	—
Oxford,	1,079 99	—	—	—	—	—
Paxton,	1,039 99	—	—	—	—	—
Petersham,	1,229 99	805 63	—	—	—	—
Phillipston,	1,057 99	—	—	—	—	—
Princeton,	847 49	—	—	—	—	—
Royalston,	1,429 99	—	—	—	—	—
Rutland,	997 49	—	—	—	—	—
Shrewsbury,	847 49	—	—	—	—	—
Southborough,	1,079 99	93 05	1	68	104,000 00	10,200 00
Southbridge,	—	—	2	923	—	—
Spencer,	—	25 00	1	357	—	1,400 00
Sterling,	997 49	—	—	—	—	—
Sturbridge,	1,229 99	—	—	—	—	—
Sutton,	1,079 99	—	1	148	—	900 00
Templeton,	1,079 99	—	—	—	—	—
Upton,	847 49	—	—	—	—	—
Uxbridge,	—	144 00	—	—	—	—
Warren,	1,079 99	148 00	—	—	—	—
Webster,	—	50 00	—	—	—	—
Westborough,	—	25 00	4	1,093	—	—
West Boylston,	1,229 99	—	—	—	—	—
West Brookfield,	1,229 99	—	—	—	—	—
Westminster,	997 49	—	—	—	—	—
Winchendon,	—	—	—	—	—	—
Worcester,	—	1,550 00	14	4,451	160,000 00	26,000 00
Totals,	\$45,875 09	\$5,171 68	32	9,464	\$120,673 00	\$38,700 00
					\$759,710 42	\$20,137 00

RECAPITULATION.

COUNTIES.	POPULATION — State Census of 1905.		VALUATION — May 1, 1907.		No. of public schools.		SCHOOL CENSUS DATA SEPT. 1, 1907.		SCHOOL MEMBERSHIP, ATTENDANCE AND GRADUATION DATA FOR THE SCHOOL YEAR.							
	No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of persons in towns between 5 and 15 years of age.	No. of persons in towns between 7 and 14 years of age.	No. of different pupils during the school year.	No. of different pupils with- in the year under 5 years of age.	No. of different pupils with- in the year over 15 years of age.	No. of different pupils with- in the year between 7 and 14 years of age.	Average membership of all the schools.	Average attendance of all the schools.	Percentage of attendance based on average membership.	No. graduated from gram- mar schools.				
Barnstable, . . .	26,831	\$28,060,287	149	3,202	4,873	41	631	3,303	4,460	4,095	.92	299				
Berkshire, . . .	98,330	72,534,791	487	17,997	17,334	467	1,450	11,575	15,091	13,848	.92	617				
Bristol, . . .	269,257	220,435,612	957	37,810	43,348	529	2,769	30,248	37,715	34,761	.92	1,163				
Dukes, . . .	4,551	5,234,485	25	792	850	—	102	558	725	669	.92	40				
Essex, . . .	381,181	346,871,602	1,397	67,772	61,325	849	6,043	40,123	54,916	51,131	.93	2,704				
Franklin, . . .	43,362	27,585,650	265	7,280	7,662	47	649	5,411	6,899	6,398	.93	386				
Hampden, . . .	196,013	181,177,987	800	36,564	33,338	1,379	3,004	21,506	28,567	26,090	.91	1,193				
Hampshire, . . .	62,227	38,065,747	317	10,529	10,647	195	918	7,134	9,414	8,751	.93	456				
Middlesex, . . .	608,499	594,236,814	2,345	106,138	110,113	2,753	13,179	70,512	98,599	91,585	.93	4,496				
Nantucket, . . .	2,930	3,324,382	11	412	514	1	62	273	395	373	.94	27				
Norfolk, . . .	167,537	251,006,899	734	31,326	32,056	872	2,709	21,178	28,802	26,802	.93	1,888				
Plymouth, . . .	127,932	105,727,268	554	21,030	23,216	111	2,388	15,509	21,179	19,680	.93	1,161				
Suffolk, . . .	652,362	1,364,313,257	2,070	116,191	118,194	3,061	10,879	68,361	105,890	96,300	.91	5,613				
Worcester, . . .	362,668	273,982,823	1,445	66,186	60,849	1,181	5,309	40,415	53,414	48,911	.92	2,270				
State, . . .	3,003,680	\$3,512,557,604	11,556	390,235	524,319	11,486	50,092	336,106	466,214	429,394	.92	22,313				

SCHOOL RETURNS.

RECAPITULATION — CONTINUED.

COUNTIES.	NUMBER OF TEACHERS REQUIRED BY THE PUBLIC SCHOOLS.		NUMBER OF TEACHERS WHO HAVE GRADUATED FROM COLLEGE.		TEACHERS AND TEACHERS' WAGES.				LENGTH OF SCHOOLING.				HIGH SCHOOLS.					
	Men.	Women.	In high schools.	In elementary schools.	No. of teachers who have graduated from normal schools.	Average wages per month of male teachers.	Average wages per month of female teachers.	Aggregate of months all the public schools have been kept during the school year.	Average number of months public schools have been kept during the year.	No. of high schools.	No. of teachers.	No. of pupils.	No. of new pupils admitted during the year.	No. of graduates.	Length of schooling.	Expenditures for high school support.		
																	1,281	13,497	1,587	447	7,448	$155 95	$59 58	107,865-1	9-8	266	2,073	51,527	18,770	7,733	9-12	$2,862,617 81
Barnstable,	25	147	25	8	88	\$82 34	\$44 04	1,338-12	8-19	14	31	691	238	125	9-10	\$34,913 48		
Berkshire,	41	566	56	9	233	107 90	48 42	4,475-14	9-4	10	59	1,406	531	198	9-12	64,551 75		
Bristol,	82	1,138	78	7	430	134 78	56 43	9,023-16	9-9	14	99	2,439	911	359	9-14	128,805 46		
Dukes,	4	26	7	1	10	75 57	43 72	223-1	8-18	4	7	112	31	14	9-5	4,526 75		
Essex,	123	1,643	204	38	700	140 32	57 63	13,175-13	9-6	28	257	6,436	2,282	821	9-13	318,612 22		
Franklin,	10	292	35	4	120	110 71	40 42	2,335-4	8-16	11	42	948	309	135	9-15	42,131 51		
Hampden,	81	920	120	43	619	142 39	58 48	7,608-5	9-10	11	136	3,127	1,127	441	9-13	181,841 85		
Hampshire,	22	347	44	16	135	95 23	42 51	2,864-5	9-1	11	49	1,112	368	153	9-14	45,804 17		
Middlesex,	271	2,804	381	131	1,420	154 78	63 24	21,635-16	9-6	48	495	12,652	4,470	1,744	9-10	667,520 06		
Nantucket,	1	17	1	-	4	100 00	33 50	107-4	9-15	1	4	74	26	11	10	3,300 00		
Norfolk,	89	856	133	23	441	138 25	59 20	6,787-13	9-5	27	157	3,807	1,452	568	9-12	198,345 93		
Plymouth,	61	606	82	13	354	121 39	52 83	5,084-6	9-4	20	130	2,776	1,028	377	9-12	137,890 58		
Suffolk,	318	2,501	189	115	1,914	215 15	72 35	19,658-19	9-10	17	334	9,554	3,879	1,930	9-5	717,986 51		
Worcester,	153	1,634	232	39	980	129 23	54 00	13,551-13	9-8	50	283	6,393	2,118	857	9-14	316,387 54		
State,	1,281	13,497	1,587	447	7,448	\$155 95	\$59 58	107,865-1	9-8	266	2,073	51,527	18,770	7,733	9-12	\$2,862,617 81		

RECAPITULATION — CONTINUED.

COUNTIES. \$	EXPENDITURES FOR THE SUPPORT OF PUBLIC SCHOOLS.										Total expenditure for the support of public schools, being the total of the seven preceding columns.	Amount included in the total expenditure as given in the preceding column, but derived from other sources than local taxation, such as aid from the State, voluntary contributions, income from local funds, etc.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.
	Teachers' wages.	Conveyance of pupils.	Fuel and care of school premises.	School committee, including clerical aid and transient service.	Superintendent and assistants.	Text-books and school supplies.	School sundries.						
Barnstable, . . .	\$84,725 84	\$14,477 32	\$18,042 75	\$1,636 76	\$9,117 55	\$8,647 77	\$2,668 55	\$139,316 84	\$25,883 88	\$113,432 96			
Berkshire, . . .	298,354 26	11,070 65	57,961 81	5,531 77	22,676 20	25,023 07	18,021 87	438,639 63	43,484 26	395,155 37			
Bristol, . . .	748,732 29	14,395 54	160,004 06	16,476 25	24,441 11	63,007 30	33,486 81	1,060,543 36	67,799 01	992,744 35			
Dukes, . . .	13,774 38	1,065 45	2,319 22	406 72	1,749 88	1,476 15	445 22	21,237 02	8,158 62	13,078 40			
Essex, . . .	1,129,680 23	18,782 93	215,193 18	21,204 27	38,660 00	107,308 46	40,514 71	1,571,353 78	38,679 07	1,532,674 71			
Franklin, . . .	130,834 20	19,248 12	23,342 29	1,422 49	14,760 60	12,411 51	5,978 04	207,997 25	49,894 17	158,103 08			
Hampden, . . .	679,744 08	13,833 49	134,247 96	15,464 01	24,504 54	70,422 55	31,936 78	970,153 41	47,028 55	923,124 86			
Hampshire, . . .	170,435 59	9,171 76	35,869 59	2,286 10	15,524 49	15,226 15	7,455 02	255,968 70	46,657 26	209,311 44			
Middlesex, . . .	2,222,963 81	53,988 21	464,000 03	33,226 02	67,008 88	168,112 79	82,832 92	3,092,132 66	82,228 81	3,009,903 85			
Nantucket, . . .	6,686 50	80 00	1,137 60	34 90	-	751 58	349 41	9,039 99	307 20	8,732 79			
Norfolk, . . .	642,743 61	28,686 21	135,949 69	8,137 14	34,583 82	63,410 09	38,691 79	952,102 35	29,216 27	922,886 08			
Plymouth, . . .	404,693 01	23,308 77	85,728 48	5,676 61	23,352 21	39,830 19	18,893 91	601,483 18	38,803 43	562,679 75			
Suffolk, . . .	3,064,135 90	787 75	419,293 56	71,007 44	40,394 16	115,756 00	96,889 24	3,808,264 05	58,702 75	3,749,561 30			
Worcester, . . .	1,085,828 98	56,677 89	226,929 51	18,443 29	51,328 50	86,326 47	44,007 81	1,569,542 45	106,780 73	1,462,761 72			
State, . . .	\$10,683,342 68	\$265,574 09	\$1,980,019 73	\$200,953 77	\$368,102 24	\$777,710 08	\$422,072 08	\$14,697,774 67	\$643,624 01	\$14,054,150 66			

SCHOOL RETURNS.

RECAPITULATION — CONTINUED.

COUNTIES.	EXPENDITURES FOR SCHOOL BUILDINGS.			Total expenditure for school buildings, being the total of the three preceding columns.	Amount included in the total expenditure for school buildings as given in the preceding column, but derived from other sources than local taxation.	Amount raised by local taxation and expended for school buildings, that is, for all school purposes.	LOCAL FUNDS WHOSE INCOME MUST BE APPROPRIATED TO THE PUBLIC SCHOOLS.		Dog tax and other income voluntarily appropriated to the public schools.
	New schoolhouses.	Alterations and permanent repairs.	Ordinary repairs.				Principal.	Income.	
Barnstable,	\$9,666 06	\$1,282 34	\$6,286 31	\$17,234 71	-	\$17,234 71	\$26,894 68	\$1,319 32	\$1,438 90
Berkshire,	14,685 15	20,468 45	16,140 11	51,293 71	\$539 49	50,754 22	4,887 00	266 66	2,782 03
Bristol,	101,068 66	26,841 49	62,464 20	190,374 35	107 62	190,266 73	213,500 00	13,740 28	12,167 40
Dukes,	-	792 97	305 73	1,098 70	-	1,098 70	-	-	302 06
Essex,	276,463 94	58,868 43	81,528 96	416,861 33	290 00	416,571 33	197,443 17	9,285 56	8,339 30
Franklin,	11,325 84	9,578 94	5,862 59	26,767 37	695 98	26,071 39	59,370 92	2,852 35	1,338 90
Hampden,	170,662 85	63,100 08	32,911 11	266,674 04	-	266,674 04	37,525 30	1,889 73	5,277 93
Hampshire,	14,076 79	7,293 58	10,405 02	31,775 39	165 03	31,610 36	24,104 09	1,123 49	3,187 58
Middlesex,	430,885 07	69,790 84	137,451 10	638,127 01	40 00	638,087 01	119,042 63	5,181 93	11,983 21
Nantucket,	-	468 81	764 07	1,232 88	-	1,232 88	-	-	307 20
Norfolk,	291,413 24	22,161 08	36,489 51	350,063 83	-	350,063 83	53,942 70	2,336 99	6,383 28
Plymouth,	99,544 21	16,364 37	22,707 99	138,616 57	1,591 90	137,024 67	32,023 50	913 26	7,897 87
Suffolk,	1,047,162 31	361,383 97	15,207 95	1,423,754 23	-	1,423,754 23	128,075 00	4,945 78	52,562 93
Worcester,	143,478 54	61,005 84	59,296 57	263,780 95	1,518 23	262,262 72	391,708 88	12,460 75	18,357 93
State,	\$2,610,432 66	\$719,401 19	\$487,821 22	\$3,817,655 07	\$4,948 25	\$3,812,706 82	\$1,288,517 87	\$56,316 10	\$132,336 52

EVENING SCHOOLS.

CITIES AND TOWNS.	No. of schools.	ATTENDANCE.			TIME. Average No. of evenings.	No. of teachers.	Expense.
		Males.	Females.	Average.			
Adams,	2	84	99	105	42	10	\$814 49
Attleborough,	3	258	95	167	35	14	1,286 75
Beverly,	12	320	121	290	40	16	2,543 67
Boston,	24	6,008	4,493	7,267	83	359	118,870 70
Brockton,	6	718	228	439	55	29	3,440 63
Brookline,	5	147	104	119	48	12	2,027 87
Cambridge,	8	1,601	1,051	1,097	65	85	13,033 82
Chelsea,	1	608	364	414	60	22	3,197 13
Chicopee,	3	325	250	395	40	35	2,741 56
Clinton,	2	326	95	198	75	11	1,402 75
Dudley,	1	20	17	25	50	4	267 52
Easthampton,	13	90	102	128	30	13	456 00
Everett,	4	209	101	151	72	12	2,176 95
Fall River,	22	1,904	950	1,517	50	139	11,169 40
Fitchburg,	3	316	79	155	50	26	2,400 00
Framingham,	1	208	68	90	43	10	995 61
Gardner,	1	337	49	211	44	38	1,399 35
Gloucester,	1	22	10	13	20	1	60 00
Grafton,	2	34	11	33	42	4	386 50
Greenfield,	1	96	38	23	37	5	365 50
Hatfield,	1	18	-	10	30	1	62 29
Haverhill,	7	447	225	482	60	42	2,680 00
Holyoke,	6	859	674	829	56	67	6,927 30
Hyde Park,	9	155	107	125	64	9	1,256 64
Lawrence,	5	1,854	937	1,765	74	88	11,108 47
Leominster,	1	190	70	125	44	-19	1,250 00
Lowell,	19	2,894	1,257	2,334	70	177	24,528 00
Lynn,	2	1,375	476	525	47	46	4,925 18
Malden,	3	531	356	458	57	35	4,715 97
Marlborough,	8	247	32	227	50	8	475 22
Medford,	3	198	69	69	51	9	997 48
Milford,	1	220	65	197	33	15	1,000 00
New Bedford,	8	1,546	777	1,083	40	65	6,615 81
Newburyport,	1	71	32	23	67	5	623 30
Newton,	3	300	87	183	50	14	2,463 17
North Adams,	4	236	52	172	40	13	1,347 68
Northampton,	3	93	35	77	60	8	719 00
North Attleborough,	1	111	28	39	35	6	232 50
Northbridge,	4	92	26	75	30	7	505 03
Norwood,	2	24	5	22	20	2	130 00
Peabody,	1	179	8	107	45	11	648 25
Pittsfield,	9	232	145	109	50	10	1,130 38
Plymouth,	2	106	59	130	56	9	770 00
Quincy,	3	338	36	148	40	11	1,500 00
Rockland,	1	70	9	24	35	2	274 75
Salem,	4	468	105	199	56	27	2,974 00
Somerville,	5	1,076	472	505	75	44	10,114 80
Southbridge,	4	127	95	169	38	11	631 94
Spencer,	1	14	7	18	31	2	88 00
Springfield,	8	1,620	805	1,119	78	96	15,133 36
Taunton,	10	472	197	366	41	32	4,167 36
Wakefield,	1	89	38	85	60	8	948 25
Waltham,	3	336	102	202	33	15	2,018 50
Warren,	2	61	38	43	30	3	130 00
Webster,	2	123	56	41	50	9	605 00
Westfield,	1	121	77	89	40	7	583 00
Woburn,	5	169	24	47	38	10	500 11
Worcester,	16	1,990	870	1,386	109	118	28,703 99
Totals,	284	32,683	16,778	26,444	49	1,906	\$312,520 93

RETURNS OF SCHOOLS IN STATE INSTITUTIONS FOR THE SCHOOL YEAR 1907-1908.

STATE INSTITUTIONS.	No. of schools in the institution.	No. of different scholars of all ages during the year.	Average attendance during the year.	No. under 5 years of age attending school.	No. over 15 years of age attending school.	No. between 5 and 15 years in the institution at the end of the school year.	NO. OF TEACHERS DURING THE YEAR.		WAGES OF TEACHERS PER MONTH.		Length of each school.
							Males.	Females.	Males.	Females.	
State Industrial School for Girls,	9	397	228	-	360	37	-	11	-	\$25 00 ¹ to \$33 33 ¹	10 mos.
Lyman School for Boys at Westborough,	8	729	378	-	380	349	3	13	\$66 66 ¹ to 100 00 ¹	\$25 00 ¹ to \$66 66 ¹	44 wks.

¹ And home.

GRADUATED TABLES.

In order to show the comparative standing of the towns and cities (1) in the taxes which they impose upon themselves for the support of their public schools, (2) in the ratio which these taxes bear to their respective valuations, and (3) in the ratio of the attendance upon the public schools to the whole number of children between five and fifteen, three graduated tables have been prepared.

For the sake of brevity as well as convenience of reference these tables may be named as follows:—

- I. Graduated taxation table.
- II. Graduated valuation table.
- III. Graduated attendance table.

I. Graduated Taxation Table.

In this table the towns and cities are classified or ranked according to the amounts which they severally raise by local taxation for the school support of each child in the average membership of the public schools. It is the average membership that more than any other factor determines the expense of the schools, and it is the expenditure for each child in the average membership that more than any other factor determines a town's liberality in matters of school support. In some places large numbers of children between five and fifteen are in private schools; the amount raised for the public schools is correspondingly reduced. Consequently the amounts of the local tax for each child between five and fifteen in such places are relatively small. To use such amounts, however, as evidence of the economy or the parsimony of towns would be illogical and unjust.

Advantage is taken of this table to present important data not given in reports previous to the sixty-sixth. They are the amounts yielded for each child in the average membership by the local tax *plus* the State and other contributions. In the column next to the last, the amounts measure the local taxation burden for each child in the average membership. That is to say, the former column shows what the town unaided is doing for the child, the latter column what the child gets from all sources.

II. *Graduated Valuation Table.*

This table exhibits for the several towns and cities the ratios which the sums raised by taxation and expended for the support of the public schools bear to their respective assessed valuations. For convenience of apprehension the ratio in each case is expressed as so many dollars of tax on a thousand dollars of valuation.

III. *Graduated Attendance Table.*

This table exhibits for the several towns and cities the ratio in each case of the average attendance upon the public schools to the whole number of children between five and fifteen reported in the school census. If there are no private schools, the ratio is likely to be high. If there are no private schools and at the same time an unusually large proportion of the children under five and over fifteen are attending school, the ratio may exceed even a hundred per cent. On the other hand, if children attend private schools in any considerable number, the fact is reflected in a lower ratio.

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
1906-7.	1907-8.							
55	88	Norton,	\$8,614 68	\$10,558 22	324	297	\$29 01	\$35 55
119	89	Norfolk,	4,028 87	5,666 93	150	139	28 98	40 77
85	90	Somerville,	340,852 07	340,852 07	11,298	11,793	28 90	28 90
91	91	Tyngsborough,	3,202 54	5,417 26	140	111	28 85	48 80
132	92	Mattapoisett,	5,356 67	6,410 63	219	187	24 46	34 28
92	93	Lynn,	289,602 54	291,648 57	12,313	10,129	28 59	28 79
105	94	Wareham,	16,397 87	17,363 27	543	577	28 42	30 09
110	95	Brockton,	228,205 57	228,510 34	4,840	8,115	28 12	28 16
104	96	Brewster,	2,527 50	3,717 30	112	90	28 08	41 30
148	97	Westborough,	18,138 80	18,209 80	675	646	28 08	28 19
99	98	Westfield,	60,113 23	68,213 63	2,451	2,142	28 06	31 85
97	99	Needham,	23,977 42	24,436 92	796	857	27 98	28 51
93	100	Gardner,	44,702 38	44,980 63	2,217	1,598	27 97	28 15
122	101	Clinton,	49,404 75	49,404 75	2,416	1,782	27 72	27 72
130	102	Northampton,	76,498 17	79,508 17	3,071	2,765	27 67	28 76
112	103	Everett,	169,541 17	169,841 67	5,846	6,153	27 55	27 60
85	104	Amesbury,	25,458 86	25,458 86	1,632	926	27 49	27 49
139	105	Westford,	10,818 84	12,521 34	403	394	27 43	31 78
113	106	Williamstown,	21,068 71	21,355 84	804	772	27 29	27 66
90	107	Norwood,	40,040 77	40,212 77	1,446	1,471	27 22	27 34
123	108	Spencer,	24,633 09	25,172 15	1,208	908	27 13	27 72
108	109	Chicopee,	68,278 62	68,487 12	3,515	2,521	27 08	27 17
145	110	Townsend,	7,293 75	8,712 82	264	262	27 08	33 26
128	111	Adams,	42,376 52	42,376 52	2,230	1,566	27 06	27 06
147	112	Dartmouth,	15,856 19	16,655 67	759	594	26 69	28 04
96	113	Revere,	78,838 42	78,893 92	3,203	2,961	26 61	26 63
137	114	Wakefield,	55,635 55	57,773 29	1,889	2,091	26 61	27 76
117	115	Pittsfield,	110,787 67	110,787 67	4,593	4,170	26 57	26 57

SCHOOL RETURNS.

103	Barre,	10,143 77	12,116 77	431	382	23 54	26 55	31 72
141	Chelmsford,	20,523 27	21,709 27	800	775	25 65	26 52	28 01
129	North Attleborough,	33,339 92	33,339 92	1,172	1,259	28 45	26 48	26 48
25	Boxford,	2,303 34	3,760 96	105	147	20 94	26 48	43 23
89	West Brookfield,	3,894 92	6,020 78	187	187	20 77	26 42	40 96
106	Stoneham,	29,021 90	29,201 90	1,083	1,101	26 80	26 36	26 52
101	Frammingham,	54,273 39	54,906 28	1,931	2,059	28 11	26 36	26 67
107	Peabody,	49,666 45	49,828 45	2,377	1,890	26 36	26 36	26 36
163	Danvers,	39,206 09	40,186 09	1,359	1,492	28 85	26 28	26 93
121	Greenfield,	40,542 21	41,552 21	1,570	1,544	25 82	26 27	26 47
118	Natick,	45,898 17	46,376 28	1,629	1,750	26 18	26 23	26 50
66	Marshfield,	6,897 25	8,261 92	242	263	26 22	26 22	31 41
83	Topsfield,	8,371 60	4,523 41	116	129	29 07	26 14	35 07
125	Taunton,	122,945 52	125,555 24	5,638	4,706	21 81	26 13	26 68
130	Fall River,	355,838 67	364,776 21	21,862	13,702	16 28	25 97	26 62
127	Dudley,	9,661 24	11,215 10	809	373	11 94	25 96	30 07
162	Palmer,	26,876 81	26,876 81	1,415	1,039	18 99	25 87	25 87
202	Bellingham,	6,707 66	8,445 31	313	260	21 43	25 80	32 48
155	Chelsea,	168,613 75	168,879 19	7,440	6,543	22 66	25 77	25 81
114	Ashby,	3,163 61	5,489 56	125	123	25 31	25 72	44 63
124	Abington,	23,800 14	24,993 14	469	927	50 75	25 67	26 96
70	Carver,	4,903 42	6,077 10	208	191	25 67	25 67	31 82
138	Deerfield,	7,225 12	8,864 36	346	282	20 88	25 62	31 40
174	Southbridge,	27,059 75	27,704 75	2,155	1,057	12 56	25 60	26 21
142	Bridgewater,	21,264 65	29,032 15	714	831	29 76	25 59	34 94
115	Norwell,	5,928 94	8,367 10	227	233	26 12	25 45	35 09
334	Holland,	329 26	784 49	17	13	19 37	25 33	60 35
165	Athol,	29,477 75	30,641 05	1,262	1,166	23 35	25 28	26 28
188	Marblehead,	30,519 81	30,519 81	1,140	1,219	26 77	25 04	25 04
154	Great Barrington,	26,377 85	27,924 35	938	1,054	28 12	25 03	26 49
135	Weymouth,	53,624 72	53,732 72	2,028	2,144	26 44	25 01	25 06
149	Grafton,	20,424 69	22,410 86	883	817	23 13	25 00	27 43
136	Warren,	13,996 19	16,866 93	707	560	19 80	24 99	30 12
134	Plymouth,	46,920 61	46,938 86	1,973	1,878	23 78	24 98	24 99
168	Orange,	24,676 82	24,676 82	918	990	26 88	24 93	24 93
153	Foxborough,	14,239 75	15,866 87	533	574	26 72	27 64	27 64
111	Maynard,	19,646 53	20,271 53	723	793	21 17	24 77	25 56
86	Acton,	8,196 12	9,728 60	340	331	24 11	24 76	29 39
151	Royalston,	3,488 75	5,422 97	143	141	23 70	24 74	38 46

Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
1906-7.								
150	Braintree, . . .	\$33,479 48	\$33,947 48	1,261	1,355	\$26 55	\$24 71	\$25 05
151	Sunderland, . . .	3,187 30	5,534 41	161	129	10 98	24 71	42 90
152	Brookfield, . . .	9,044 92	10,869 91	359	367	25 19	24 65	29 62
153	North Reading, . . .	3,166 05	5,712 71	166	130	19 07	24 35	43 94
154	Kingson, . . .	9,039 99	10,683 99	395	373	22 89	24 24	28 64
155	Mansfield, . . .	19,455 57	19,979 07	833	806	23 36	24 14	24 79
156	Richmond, . . .	1,568 64	3,186 36	83	65	18 91	24 13	49 02
157	Marlborough, . . .	56,612 53	56,927 96	2,923	2,368	19 37	23 91	24 04
158	Duxbury, . . .	5,487 40	7,032 68	208	230	26 38	23 86	30 58
159	Stoughton, . . .	19,879 25	20,596 25	991	836	20 06	23 78	24 64
160	Easton, . . .	21,655 86	29,241 36	906	915	23 90	23 67	31 96
161	Whitman, . . .	30,278 86	31,409 60	1,280	1,284	24 03	23 58	24 46
162	Hanson, . . .	5,148 66	6,676 75	286	219	18 00	23 51	30 49
163	Uxbridge, . . .	16,815 68	18,653 36	799	716	21 05	23 49	26 05
164	Sturbridge, . . .	6,739 50	8,714 49	348	287	19 37	23 48	30 36
165	Saugus, . . .	33,622 25	33,982 25	1,393	1,433	24 14	23 46	23 71
166	Dakota, . . .	14,538 64	15,542 14	609	621	23 87	23 41	25 03
167	Blandford, . . .	1,731 30	3,776 90	91	74	19 03	23 40	51 04
168	Middleborough, . . .	29,467 11	31,062 04	1,260	1,261	23 39	23 37	24 63
169	Haitax, . . .	1,842 48	3,115 48	83	79	22 20	23 32	39 44
170	Oak Bluffs, . . .	4,593 69	4,936 79	273	197	16 83	23 32	25 06
171	Hudson, . . .	24,766 03	25,061 03	1,102	1,070	22 47	23 15	23 42
172	Wellfleet, . . .	3,110 96	4,109 76	134	135	23 06	23 04	30 44
173	Rockland, . . .	26,016 20	26,204 95	1,059	1,130	24 57	23 02	23 19
174	Merrimac, . . .	7,903 55	9,654 23	332	344	23 81	22 98	28 06
175	Hanover, . . .	8,512 88	9,896 90	359	371	23 71	22 95	26 68
176	Charlemont, . . .	3,549 64	6,210 47	172	155	20 64	22 90	40 07
177	Quincy, . . .	129,633 24	129,933 50	7,258	5,670	17 86	22 86	22 92
1907-8.								
150	Braintree, . . .	\$33,479 48	\$33,947 48	1,261	1,355	\$26 55	\$24 71	\$25 05
151	Sunderland, . . .	3,187 30	5,534 41	161	129	10 98	24 71	42 90
152	Brookfield, . . .	9,044 92	10,869 91	359	367	25 19	24 65	29 62
153	North Reading, . . .	3,166 05	5,712 71	166	130	19 07	24 35	43 94
154	Kingson, . . .	9,039 99	10,683 99	395	373	22 89	24 24	28 64
155	Mansfield, . . .	19,455 57	19,979 07	833	806	23 36	24 14	24 79
156	Richmond, . . .	1,568 64	3,186 36	83	65	18 91	24 13	49 02
157	Marlborough, . . .	56,612 53	56,927 96	2,923	2,368	19 37	23 91	24 04
158	Duxbury, . . .	5,487 40	7,032 68	208	230	26 38	23 86	30 58
159	Stoughton, . . .	19,879 25	20,596 25	991	836	20 06	23 78	24 64
160	Easton, . . .	21,655 86	29,241 36	906	915	23 90	23 67	31 96
161	Whitman, . . .	30,278 86	31,409 60	1,280	1,284	24 03	23 58	24 46
162	Hanson, . . .	5,148 66	6,676 75	286	219	18 00	23 51	30 49
163	Uxbridge, . . .	16,815 68	18,653 36	799	716	21 05	23 49	26 05
164	Sturbridge, . . .	6,739 50	8,714 49	348	287	19 37	23 48	30 36
165	Saugus, . . .	33,622 25	33,982 25	1,393	1,433	24 14	23 46	23 71
166	Dakota, . . .	14,538 64	15,542 14	609	621	23 87	23 41	25 03
167	Blandford, . . .	1,731 30	3,776 90	91	74	19 03	23 40	51 04
168	Middleborough, . . .	29,467 11	31,062 04	1,260	1,261	23 39	23 37	24 63
169	Haitax, . . .	1,842 48	3,115 48	83	79	22 20	23 32	39 44
170	Oak Bluffs, . . .	4,593 69	4,936 79	273	197	16 83	23 32	25 06
171	Hudson, . . .	24,766 03	25,061 03	1,102	1,070	22 47	23 15	23 42
172	Wellfleet, . . .	3,110 96	4,109 76	134	135	23 06	23 04	30 44
173	Rockland, . . .	26,016 20	26,204 95	1,059	1,130	24 57	23 02	23 19
174	Merrimac, . . .	7,903 55	9,654 23	332	344	23 81	22 98	28 06
175	Hanover, . . .	8,512 88	9,896 90	359	371	23 71	22 95	26 68
176	Charlemont, . . .	3,549 64	6,210 47	172	155	20 64	22 90	40 07
177	Quincy, . . .	129,633 24	129,933 50	7,258	5,670	17 86	22 86	22 92

SCHOOL RETURNS.

cvii

185	Newbury,	4,479 11	6,135 34	196	20 36	22 85	31 30
186	South Hadley,	20,330 94	21,424 94	891	21 72	22 82	24 05
187	Lee,	13,405 35	15,545 74	727	18 44	22 80	26 44
188	Shrewsbury,	7,066 30	8,770 79	293	18 42	22 78	28 29
189	Agawam,	9,658 83	11,494 64	548	17 63	22 73	27 05
190	Methuen,	34,533 58	35,001 99	1,892	18 25	22 64	22 95
191	Rockport,	18,576 30	18,576 30	822	22 82	22 60	22 60
192	Georgetown,	5,776 10	5,776 10	308	18 75	22 56	22 56
193	Lanesborough,	2,414 11	4,228 45	107	17 49	22 52	39 52
194	Milford,	38,340 17	38,467 27	2,100	18 26	22 54	22 61
195	Westport,	8,255 88	9,730 51	507	16 28	22 41	23 56
196	Oxford,	11,564 91	13,755 67	413	20 08	22 37	26 61
197	Medway,	9,947 80	11,183 79	408	24 38	22 35	25 13
198	Northbridge,	31,733 91	31,790 91	408	20 43	22 29	22 32
199	Hatfield,	5,384 41	6,703 91	1,424	20 40	22 25	27 70
200	Montgomery,	599 74	2,284 15	264	17 14	22 21	84 60
201	Washington,	1,066 14	2,042 37	35	17 67	22 21	42 55
202	Northborough,	7,250 91	9,260 21	60	21 52	22 17	28 32
203	Nantucket,	8,732 79	9,039 99	327	21 11	22 89	22 89
204	Mendon,	3,380 05	5,543 70	395	23 64	22 09	36 23
205	Douglas,	6,580 43	8,165 88	153	18 96	22 00	27 31
206	Ashfield,	3,397 91	6,285 10	299	22 80	21 92	40 55
207	Enfield,	3,081 43	5,384 12	155	18 06	21 85	38 19
208	Dennis,	6,721 89	8,243 51	141	24 09	21 82	26 76
209	Leicester,	14,393 40	17,966 81	279	20 27	21 74	27 14
210	Warwick,	2,209 98	4,223 67	710	18 26	21 67	41 41
211	Pepperell,	13,911 43	15,708 82	662	23 78	21 64	24 43
212	Woburn,	59,186 28	59,869 78	585	17 09	21 62	21 87
213	Billerica,	10,982 37	12,462 37	3,463	21 16	21 58	24 48
214	New Marlborough,	3,796 13	5,772 07	519	20 09	21 57	32 80
215	North Brookfield,	8,529 06	10,308 05	189	16 76	21 54	26 03
216	Randolph,	13,987 42	15,668 15	509	19 78	21 52	24 10
217	Lunenburg,	4,083 47	5,954 10	707	18 47	21 49	31 34
218	Wilmington,	7,936 94	9,720 07	220	22 36	21 45	26 27
219	Newburyport,	42,000 00	44,914 23	355	17 79	21 43	22 91
220	Sherborn,	4,130 58	5,468 21	2,361	18 36	21 40	28 33
221	Dighton,	6,716 38	8,087 06	387	17 35	21 39	25 75
222	Gloucester,	99,796 26	99,796 26	4,601	21 69	21 33	21 33
223	West Stockbridge,	3,162 38	5,830 25	4,678	15 66	21 26	39 13
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Table showing the comparative amounts of money expended for the support, etc. — Continued.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	TOWNS AND CITIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
1906-7.	1907-8.							
172	222					\$20 63	\$21 24	\$46 85
225	223	Bolton,	3,963 06	105	102	19 33	21 19	33 51
157	224	Acushnet,	5,880 24	205	187	22 99	21 18	26 86
234	225	Chatham,	15,939 05	886	254	17 99	21 17	24 68
183	226	Ipswich,	2,499 47	54	49	18 52	21 14	51 01
138	227	Boxborough,	4,121 27	201	195	20 51	21 14	34 97
179	228	Stow,	5,044 03	229	239	22 03	21 10	31 17
224	229	Sheffield,	4,680 38	240	222	19 83	21 08	30 04
160	230	Northfield,	9,000 52	431	427	20 88	21 08	25 85
173	231	Hopkinton,	4,785 80	214	228	22 36	20 99	31 03
167	232	Sandwich,	7,094 44	322	338	22 03	20 96	31 30
343	233	Ashland,	1,572 29	75	75	20 96	20 96	28 98
240	234	Otis,	5,756 17	309	275	18 63	20 93	28 18
195	235	Swansea,	10,093 89	448	485	22 53	20 81	23 84
171	236	Holliston,	17,882 22	895	862	19 98	20 75	47 58
237	237	Fairhaven,	41,012 86	100	75	15 48	20 64	40 74
321	238	New Braintree,	17,254 12	759	838	22 73	20 59	23 41
223	239	Amherst,	20,784 89	1,133	1,010	18 35	20 58	28 91
245	240	Windchendon,	2,938 45	179	143	16 42	20 55	32 26
204	241	Russell,	2,880 21	118	116	20 17	20 52	42 95
243	242	Granby,	2,810 00	164	137	17 13	20 51	34 28
282	243	Rochester,	13,988 67	656	684	21 32	20 45	24 13
231	244	Monson,	6,000 00	239	246	25 10	20 33	32 34
133	245	Medfield,	4,982 68	231	246	21 57	20 25	29 58
206	246	Shelburne,	1,473 00	88	73	16 74	20 18	43 91
281	247	Chesterfield,	9,670 32	406	481	23 82	20 10	23 44
236	248	Ayer,	6,089 84	283	303	21 52	20 10	25 78
241	249	Essex,	5,084 76	304	253	16 73	20 10	27 16
264	249	Shirley,	6,972 41					

SCHOOL RETURNS.

253	Upton,	6,576 23	8,188 22	313	329	21 01	19 99	24 89
254	Cheshire,	4,035 50	5,808 00	241	203	16 74	19 88	28 61
255	Easthampton,	22,198 86	23,087 51	1,247	1,117	17 80	19 87	20 67
256	Ashburnham,	6,398 47	7,993 77	362	325	17 68	19 69	24 60
257	West Springfield,	32,888 53	35,541 43	1,705	1,682	19 29	19 55	21 13
258	Groveland,	8,355 94	10,069 97	436	428	19 17	19 52	23 53
259	Sterling,	3,998 73	6,382 54	200	205	19 99	19 51	31 13
260	Hubbardston,	3,491 00	5,043 00	195	179	17 90	19 50	28 17
261	Conway,	4,059 45	6,027 32	194	209	19 42	19 42	28 84
262	West Newbury,	5,009 25	7,349 24	234	259	21 41	19 34	28 38
263	Millbury,	14,539 98	16,857 39	843	758	17 24	19 18	22 24
264	East Bridgewater,	10,742 48	12,531 90	548	561	19 60	19 15	22 34
265	Pembroke,	3,323 36	4,780 41	191	174	17 40	19 10	27 47
266	Barnardston,	2,518 69	4,892 06	110	132	22 90	19 08	37 06
267	Dana,	2,206 85	4,464 97	118	116	18 70	19 02	38 49
268	Hinsdale,	4,103 14	6,224 39	261	217	15 72	18 68	28 68
269	Orleans,	3,573 34	5,847 54	169	189	21 14	18 91	30 94
270	West Tisbury,	1,284 87	2,483 05	67	68	19 18	18 90	36 52
271	Edgartown,	3,227 70	4,835 70	180	173	17 93	18 66	27 95
272	Sandisfield,	1,469 24	3,141 08	98	79	14 99	18 60	39 76
273	Brimfield,	2,077 43	3,673 08	146	112	14 23	18 55	32 80
274	Whately,	1,462 48	3,721 97	111	79	13 18	18 51	47 11
275	Harwich,	6,279 66	7,950 95	353	341	17 79	18 42	23 02
276	Erving,	3,401 69	5,434 23	179	185	19 00	18 39	29 37
277	Holbrook,	9,116 30	10,549 78	488	496	18 68	18 38	21 27
278	Mills,	4,457 88	6,412 24	262	243	17 01	18 35	26 39
279	Salisbury,	3,840 96	5,031 85	287	210	13 38	18 29	23 96
280	Carlisle,	1,548 52	3,047 43	89	85	17 39	18 22	35 85
281	Phillipston,	1,162 18	2,474 76	76	64	15 29	18 16	38 67
282	West Bridgewater,	6,308 53	7,775 22	388	348	16 26	18 13	22 34
283	Middleton,	2,546 12	4,810 75	185	141	13 76	18 06	34 12
284	Shutesbury,	790 40	2,026 02	49	44	16 13	17 96	46 05
285	Greenwich,	938 50	2,124 08	88	53	10 67	17 71	40 08
286	Rutland,	3,846 49	5,851 48	237	218	16 23	17 64	26 84
287	Becket,	2,284 17	4,968 02	173	130	13 20	17 57	38 22
288	Lakeville,	2,412 09	4,476 54	141	138	17 11	17 48	32 44
289	Buckland,	3,881 78	6,981 78	261	225	14 87	17 25	31 03
290	Buckland,	7,623 00	10,032 70	421	443	18 11	17 21	22 65
291	Holden,	6,967 07	9,207 27	672	408	10 37	17 08	22 57
292	Stutton,							

GRADUATED TAXATION TABLE.

Rank according to the amount yielded for each child in the average membership of the public schools by the local tax for school support.	COUNTIES.	AMOUNT EXPENDED FOR THE SUPPORT OF THE PUBLIC SCHOOLS FROM THE —		NUMBER OF CHILDREN —		Amount of local tax for school support for each child between five and fifteen years of age.	AMOUNT YIELDED FOR EACH CHILD IN THE AVERAGE MEMBERSHIP OF THE PUBLIC SCHOOLS BY THE —	
		Local tax only.	Local tax plus the State and other contributions.	In town between five and fifteen years of age.	In the average membership of the public schools.		Local tax for support.	Local tax plus the State and other contributions.
1907-1908.								
1	Suffolk,	\$3,749,561 30	\$3,808,264 05	116,191	105,890	\$32 27	\$35 41	\$35 96
2	Hampton,	923,124 86	970,153 41	36,564	28,567	25 22	32 31	33 96
3	Norfolk,	922,886 08	952,102 35	31,326	28,950	29 46	31 88	32 88
4	Middlesex,	3,009,903 85	3,092,132 66	106,138	98,599	28 36	30 53	31 26
5	Essex,	1,532,674 71	1,571,353 78	67,772	54,916	22 62	27 91	28 61
6	Worcester,	1,462,761 72	1,569,542 45	66,186	53,414	22 10	27 39	29 38
7	Plymouth,	562,679 75	601,483 18	21,030	21,179	26 76	26 57	28 40
8	Bristol,	992,744 35	1,060,543 36	52,199	37,715	19 03	26 32	28 07
9	Berkshire,	395,155 37	438,639 63	17,997	15,091	21 96	26 18	29 06
10	Barnstable,	113,432 96	139,316 84	4,238	4,460	26 77	25 43	31 01
11	Franklin,	158,103 08	207,997 25	7,280	6,899	21 72	22 92	30 15
12	Hampshire,	209,311 44	255,968 70	10,529	9,414	19 88	22 23	27 19
13	Nantucket,	8,732 79	9,039 99	412	395	21 20	22 11	22 89
14	Dukes,	13,078 40	21,237 02	792	725	16 51	18 04	29 29

AGGREGATE FOR THE STATE.

State,	\$14,054,150 66	\$14,697,774 67	538,654	466,214	\$26 09	\$30 15	\$31 53
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II. GRADUATED VALUATION TABLE.

A graduated table in which all the towns in the State are numerically arranged according to the proportion of their taxable property appropriated for the support of public schools for the year 1907-1908.

For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.	For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.
1	1	West Boylston, . .	\$9 75	66	48	Westfield, . . .	\$6 70
2	2	Plainville, . . .	8 81	47	49	Whitman, . . .	6 69
3	3	Abington, . . .	8 56	46	50	Middleborough, .	6 68
68	4	Charlemont, . . .	8 46	53	51	Holbrook, . . .	6 66
5	5	Huntington, . . .	8 41	32	52	Norwood, . . .	6 66
7	6	Montague, . . .	8 28	84	53	Wakefield, . . .	6 65
26	7	Bellingham, . . .	8 24	44	54	Reading, . . .	6 61
75	8	West Stockbridge, .	8 14	29	55	Dighton, . . .	6 60
4	9	Norton, . . .	7 97	64	56	Bridgewater, . .	6 55
20	10	Northbridge, . . .	7 95	71	57	Williamstown, . .	6 54
14	11	Monson, . . .	7 92	81	58	Franklin, . . .	6 51
8	12	Petersham, . . .	7 81	50	59	Ashland, . . .	6 48
9	13	South Hadley, . . .	7 77	94	60	Sunderland, . . .	6 48
6	14	Grafton, . . .	7 65	93	61	Westford, . . .	6 46
135	15	Upton, . . .	7 61	78	62	Foxborough, . . .	6 45
10	16	Warren, . . .	7 57	43	63	Holliston, . . .	6 44
59	17	Medway, . . .	7 38	83	64	Merrimac, . . .	6 43
13	18	Weymouth, . . .	7 38	60	65	Gardner, . . .	6 39
37	19	Hardwick, . . .	7 36	113	66	Chelsea, . . .	6 38
127	20	East Longmeadow, .	7 26	105	67	Townsend, . . .	6 38
36	21	Hudson, . . .	7 25	38	68	Wrentham, . . .	6 36
25	22	Groveland, . . .	7 18	41	69	Wilbraham, . . .	6 34
19	23	Adams, . . .	7 16	118	70	Wayland, . . .	6 34
18	24	Brookfield, . . .	7 15	52	71	Templeton, . . .	6 32
54	25	Savoy, . . .	7 13	104	72	Millbury, . . .	6 31
39	26	Orange, . . .	7 11	70	73	Leicester, . . .	6 31
49	27	Dracut, . . .	7 09	338	74	Otis, . . .	6 30
35	28	Randolph, . . .	7 07	27	75	Oxford, . . .	6 29
31	29	Everett, . . .	7 05	95	76	Malden, . . .	6 27
33	30	Boylston, . . .	7 02	76	77	Ashby, . . .	6 24
148	31	Hinsdale, . . .	7 02	136	78	Uxbridge, . . .	6 24
23	32	Colrain, . . .	7 01	79	79	Wilmington, . . .	6 24
51	33	Royalston, . . .	6 98	58	80	Tyngsborough, . .	6 23
72	34	Athol, . . .	6 97	69	81	Chicopee, . . .	6 23
11	35	Blackstone, . . .	6 95	96	82	Barre, . . .	6 23
22	36	Rockland, . . .	6 92	87	83	Pepperell, . . .	6 23
21	37	Ware, . . .	6 89	109	84	Chelmsford, . . .	6 22
40	38	Spencer, . . .	6 85	166	85	Ludlow, . . .	6 22
15	39	Provincetown, . . .	6 84	86	86	Clinton, . . .	6 22
73	40	Sturbridge, . . .	6 83	12	87	Clarksburg, . . .	6 21
173	41	N. Attleborough, . .	6 81	117	88	Littleton, . . .	6 21
42	42	Lee, . . .	6 80	145	89	Dana, . . .	6 21
56	43	Ashburnham, . . .	6 80	91	90	Dudley, . . .	6 20
17	44	Norwell, . . .	6 79	62	91	East Bridgewater, .	6 20
30	45	Palmer, . . .	6 78	90	92	Leominster, . . .	6 18
28	46	Mansfield, . . .	6 75	92	93	Methuen, . . .	6 18
45	47	Natick, . . .	6 70	89	94	North Adams, . . .	6 17

BOARD OF EDUCATION.

For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.	For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.
100	95	Rehoboth, . . .	\$6 16	170	155	West Bridgewater, . . .	\$5 31
85	96	Conway, . . .	6 12	142	156	Mendon, . . .	5 28
121	97	Brockton, . . .	6 10	128	157	Granville, . . .	5 28
67	98	Danvers, . . .	6 09	138	158	Maynard, . . .	5 26
43	99	Avon, . . .	6 08	144	159	Andover, . . .	5 24
131	100	Winchendon, . . .	6 07	151	160	Arlington, . . .	5 21
61	101	Fairhaven, . . .	6 06	188	161	Norfolk, . . .	5 18
63	102	Warwick, . . .	6 06	150	162	Peabody, . . .	5 17
341	103	Mt. Washington, . . .	6 03	167	163	N. Brookfield, . . .	5 17
176	104	Rockport, . . .	6 03	147	164	Sudbury, . . .	5 13
114	105	Walpole, . . .	6 02	209	165	Southbridge, . . .	5 10
88	106	Haverhill, . . .	5 99	186	166	Florida, . . .	5 08
178	107	Melrose, . . .	5 99	183	167	Worcester, . . .	5 07
34	108	Belchertown, . . .	5 99	162	168	Somerset, . . .	5 06
115	109	Hanover, . . .	5 98	172	169	Attleborough, . . .	5 05
65	110	Braintree, . . .	5 93	82	170	Tewksbury, . . .	5 04
74	111	Bernardston, . . .	5 93	215	171	Lexington, . . .	5 03
107	112	Millis, . . .	5 92	153	172	Raynham, . . .	5 01
57	113	Saugus, . . .	5 91	155	173	Concord, . . .	5 00
106	114	Orleans, . . .	5 86	110	174	Greenfield, . . .	4 99
99	115	Stoneham, . . .	5 85	204	175	Brewster, . . .	4 98
143	116	Northampton, . . .	5 83	201	176	Lowell, . . .	4 94
126	117	Acushnet, . . .	5 83	270	177	Tolland, . . .	4 93
158	118	Stoughton, . . .	5 78	217	178	Westport, . . .	4 91
97	119	Hopkinton, . . .	5 78	187	179	Billerica, . . .	4 86
112	120	Sutton, . . .	5 75	200	180	Auburn, . . .	4 88
101	121	Milford, . . .	5 74	132	181	Chatham, . . .	4 88
102	122	Agawam, . . .	5 73	168	182	Sandwich, . . .	4 87
130	123	Marlborough, . . .	5 72	196	183	Wendell, . . .	4 86
137	124	Georgetown, . . .	5 72	194	184	Gt. Barrington, . . .	4 86
169	125	Westborough, . . .	5 71	180	185	Shirley, . . .	4 86
98	126	Chester, . . .	5 70	291	186	Lanesborough, . . .	4 86
55	127	New Salem, . . .	5 70	224	187	Shrewsbury, . . .	4 84
279	128	Ashfield, . . .	5 69	250	188	Chesterfield, . . .	4 84
122	129	Essex, . . .	5 65	198	189	Ayer, . . .	4 82
129	130	Dennis, . . .	5 63	154	190	Granby, . . .	4 80
225	131	N. Marlborough, . . .	5 62	206	191	Holyoke, . . .	4 79
160	132	Taunton, . . .	5 61	223	192	Quincy, . . .	4 77
77	133	Southborough, . . .	5 57	240	193	Dartmouth, . . .	4 77
141	134	Framingham, . . .	5 55	235	194	Berlin, . . .	4 76
120	135	Williamsburg, . . .	5 54	216	195	Amherst, . . .	4 75
146	136	Somerville, . . .	5 53	133	196	Hingham, . . .	4 75
123	137	West Springfield, . . .	5 51	191	197	Springfield, . . .	4 75
119	138	Revere, . . .	5 50	189	198	Shelburne, . . .	4 74
111	139	Sheffield, . . .	5 48	222	199	Canton, . . .	4 74
24	140	Cheshire, . . .	5 48	203	200	West Newbury, . . .	4 73
177	141	Buckland, . . .	5 44	211	201	Barnstable, . . .	4 72
140	142	Woburn, . . .	5 43	212	202	Becket, . . .	4 72
125	143	Northborough, . . .	5 42	265	203	North Reading, . . .	4 70
164	144	Westminster, . . .	5 42	195	204	Stow, . . .	4 68
134	145	Kingston, . . .	5 42	202	205	Fitchburg, . . .	4 67
149	146	Pittsfield, . . .	5 41	192	206	Peru, . . .	4 66
159	147	Harwich, . . .	5 41	221	207	Lawrence, . . .	4 64
156	148	Medford, . . .	5 41	273	208	Longmeadow, . . .	4 64
116	149	Rutland, . . .	5 40	219	209	Cambridge, . . .	4 63
190	150	Douglas, . . .	5 39	205	210	Winchester, . . .	4 63
228	151	North Andover, . . .	5 38	254	211	Salisbury, . . .	4 63
161	152	Hubbardston, . . .	5 32	179	212	Needham, . . .	4 62
108	153	Westhampton, . . .	5 31	237	213	Swansea, . . .	4 62
80	154	Holden, . . .	5 31	175	214	Charlton, . . .	4 60

SCHOOL RETURNS.

CXV

For 1906-1907, by the State valuation of 1906.		TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.	For 1906-1907, by the State valuation of 1906.		TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.
For 1907-1908, by the State valuation of 1907.				For 1907-1908, by the State valuation of 1907.			
251	215	Princeton,	\$4 58	315	275	Washington,	\$3 82
171	216	Hawley,	4 58	234	276	Worthington,	3 81
197	217	Plymouth,	4 57	285	277	Stockbridge,	3 81
227	218	Cummington,	4 57	290	278	Newton,	3 80
182	219	Acton,	4 56	271	279	Erving,	3 80
249	220	Hyde Park,	4 56	307	280	Hatfield,	3 79
213	221	Deerfield,	4 54	283	281	Watertown,	3 79
193	222	Wales,	4 54	214	282	Blandford,	3 79
229	223	Gloucester,	4 52	207	283	Dunstable,	3 78
268	224	Rochester,	4 50	275	284	Northfield,	3 78
246	225	Wareham,	4 50	280	285	Bedford,	3 77
296	226	Rowe,	4 50	266	286	Sharon,	3 76
293	227	Phillipston,	4 49	226	287	Marshfield,	3 75
258	228	Richmond,	4 48	289	288	Newburyport,	3 73
241	229	Freetown,	4 46	311	289	Carlisle,	3 72
174	230	Easthampton,	4 46	350	290	Greenwich,	3 72
218	231	Windsor,	4 44	274	291	Lancaster,	3 71
124	232	Sandisfield,	4 43	345	292	Lakeville,	3 64
264	233	Enfield,	4 43	286	293	Lenox,	3 62
230	234	Salem,	4 41	267	294	Southwick,	3 61
185	235	Bolton,	4 40	287	295	Newbury,	3 58
238	236	Dedham,	4 37	16	296	Prescott,	3 55
184	237	Amesbury,	4 37	281	297	Webster,	3 53
163	238	Truro,	4 37	303	298	Hancock,	3 52
181	239	Russell,	4 36	103	299	Heath,	3 52
263	240	Southampton,	4 35	309	300	Pembroke,	3 50
239	241	Lynn,	4 32	233	301	Edgartown,	3 49
139	242	Brimfield,	4 31	256	302	Beverly,	3 48
261	243	Winthrop,	4 31	288	303	Burlington,	3 46
199	244	Dalton,	4 30	298	304	Paxton,	3 43
220	245	Easton,	4 28	347	305	Holland,	3 42
243	246	Belmont,	4 24	310	306	Mattapoissett,	3 41
255	247	Rowley,	4 22	278	307	Gay Head,	3 36
323	248	Plainfield,	4 21	152	308	Whately,	3 36
260	249	Fall River,	4 20	306	309	Middleton,	3 36
165	250	Dover,	4 18	301	310	Shutesbury,	3 34
292	251	Marblehead,	4 14	257	311	Bourne,	3 33
294	252	Scituate,	4 13	318	312	Seekonk,	3 32
262	253	Boxborough,	4 12	297	313	Swampscott,	3 27
305	254	Hanson,	4 11	313	314	Yarmouth,	3 21
247	255	Sterling,	4 10	324	315	Westwood,	3 19
245	256	Gill,	4 09	276	316	Monroe,	3 15
248	257	Waltham,	4 04	300	317	Eastham,	3 15
232	258	Hadley,	4 01	308	318	Topsfield,	3 14
253	259	New Bedford,	4 00	337	319	Sherborn,	3 07
272	260	Montgomery,	3 99	319	320	Mashpee,	3 06
242	261	Lunenburg,	3 98	299	321	Alford,	3 04
157	262	W. Brookfield,	3 95	252	322	Carver,	3 03
231	263	Hampden,	3 94	312	323	Wellfleet,	3 01
304	264	Halifax,	3 93	317	324	Milton,	3 00
339	265	New Braintree,	3 92	316	325	Weston,	2 99
295	266	Middlefield,	3 92	325	326	Monterey,	2 80
244	267	Berkley,	3 89	321	327	Wellesley,	2 77
259	268	Leyden,	3 88	335	328	Falmouth,	2 74
208	269	Harvard,	3 88	236	329	Goshen,	2 68
269	270	Medfield,	3 88	322	330	Oakham,	2 66
282	271	Leverett,	3 86	336	331	Tisbury,	2 64
277	272	Ipswich,	3 86	328	332	Boston,	2 63
332	273	Lynnfield,	3 84	327	333	Nantucket,	2 63
284	274	Groton,	3 83	314	334	Hamilton,	2 63

BOARD OF EDUCATION.

For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.	For 1906-1907, by the State valuation of 1906.	For 1907-1908, by the State valuation of 1907.	TOWNS AND CITIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.
334	335	Hopedale, . . .	\$2 62	344	345	Hull, . . .	\$2 21
333	336	Oak Bluffs, . . .	2 58	346	346	Brookline, . . .	2 16
320	337	Duxbury, . . .	2 56	343	347	Boxford, . . .	1 96
302	338	Tyringham, . . .	2 52	349	348	Manchester, . . .	1 87
329	339	Cohasset, . . .	2 51	330	349	Marion, . . .	1 82
340	340	West Tisbury, . . .	2 49	352	350	Nahant, . . .	1 44
326	341	Plympton, . . .	2 46	353	351	New Ashford, . . .	1 30
331	342	Egremont, . . .	2 36	351	352	Chilmark, . . .	1 00
342	343	Lincoln, . . .	2 36	210	353	Pelham, . . .	80
348	344	Wenham, . . .	2 26	354	354	Gosnold, . . .	21

GRADUATED VALUATION TABLE.

Showing the different counties in the State, numerically arranged, according to the proportion of their taxable property appropriated for the support of public schools for the year 1907-1908.

For 1907-1908, by the State valuation of 1907.	COUNTIES.	Amount appropriated to the support of public schools for each thousand dollars of valuation.	Amount raised by local taxation and expended for the support of public schools, being the total expenditure for such support diminished by contributions from other sources than local taxation.	Valuation of 1907.
1	Franklin, . . .	\$5 73	\$158,103 08	\$27,585,650
2	Hampshire, . . .	5 50	209,311 44	38,065,747
3	Berkshire, . . .	5 45	395,155 37	72,534,791
4	Worcester, . . .	5 34	1,462,761 72	273,982,823
5	Plymouth, . . .	5 32	562,679 75	105,727,268
6	Hampden, . . .	5 10	923,124 86	181,177,987
7	Middlesex, . . .	5 07	3,009,903 85	594,236,814
8	Bristol, . . .	4 50	992,744 35	220,435,612
9	Essex, . . .	4 42	1,532,674 71	346,871,602
10	Barnstable, . . .	4 04	113,432 96	23,060,287
11	Norfolk, . . .	3 68	922,886 08	251,006,899
12	Suffolk, . . .	2 75	3,749,561 30	1,364,313,257
13	Nantucket, . . .	2 63	8,732 79	3,324,382
14	Dukes, . . .	2 50	13,078 40	5,234,485

AGGREGATE FOR STATE.

State,	\$4 00	\$14,054,150 66	\$3,512,557,604
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III. GRADUATED ATTENDANCE TABLE.

In which all the towns in the State are numerically arranged according to the ratio of AVERAGE ATTENDANCE of children upon the public schools for the school year ending June, 1907, to the whole number of children in town between 5 and 15 years of age, September 1, 1907.

	TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		TOWNS AND CITIES.	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
1	Abington, . . .	469	859	1.83	42	Everett, . . .	5,846	5,818	1.00
2	Bernardston, . .	110	121	1.10	43	Groton, . . .	315	313	.99
3	Hull, . . .	191	209	1.09	44	Gloucester, . .	4,601	4,543	.99
4	Huntington, . .	267	292	1.09	45	N. Attleborough, .	1,172	1,157	.99
5	Melrose, . . .	2,597	2,799	1.08	46	Mendon, . . .	143	141	.99
6	Braintree, . . .	1,261	1,355	1.07	47	Pepperell, . . .	585	576	.98
7	Swampscott, . .	792	851	1.07	48	Foxborough, . .	533	524	.98
8	Dedham, . . .	1,396	1,480	1.06	49	Frammingham, . .	1,931	1,894	.98
9	Tisbury, . . .	185	196	1.06	50	Winthrop, . . .	1,398	1,365	.98
10	Bridgewater, . .	714	756	1.06	51	Wareham, . . .	543	530	.98
11	Wakefield, . . .	1,889	1,985	1.05	52	Rockport, . . .	814	794	.98
12	Dennis, . . .	279	293	1.05	53	Medfield, . . .	239	233	.97
13	Wellesley, . . .	774	812	1.04	54	Marblehead, . . .	1,140	1,111	.97
14	Manchester, . . .	398	416	1.04	55	Bourne, . . .	262	255	.97
15	Danvers, . . .	1,359	1,419	1.04	56	Wilmington, . . .	355	345	.97
16	Concord, . . .	900	928	1.03	57	Scituate, . . .	427	415	.97
17	Weymouth, . . .	2,028	2,077	1.02	58	Gay Head, . . .	35	34	.97
18	Reading, . . .	997	1,025	1.02	59	Marshfield, . . .	242	235	.97
19	Maynard, . . .	723	736	1.02	60	Upton, . . .	313	303	.97
20	Amherst, . . .	759	772	1.02	61	North Andover, . .	793	767	.97
21	West Newbury, . .	234	238	1.02	62	Merrimac, . . .	332	321	.97
22	Holbrook, . . .	488	496	1.02	63	Monson, . . .	656	634	.97
23	Gt. Barrington, . .	938	953	1.02	64	Brookfield, . . .	359	345	.96
24	Barnstable, . . .	655	664	1.01	65	Brookline, . . .	3,614	3,464	.96
25	Provincetown, . .	881	893	1.01	66	Dalton, . . .	609	583	.96
26	Orange, . . .	918	928	1.01	67	Topsfield, . . .	116	111	.96
27	Easton, . . .	906	915	1.01	68	Ashland, . . .	322	308	.96
28	Ayer, . . .	406	442	1.01	69	Shrewsbury, . . .	293	280	.96
29	Rockland, . . .	1,059	1,067	1.01	70	Middlefield, . . .	90	86	.96
30	Medway, . . .	408	411	1.01	71	Whitman, . . .	1,260	1,204	.96
31	Natick, . . .	1,629	1,641	1.01	72	Lenox, . . .	584	558	.96
32	Southborough, . .	294	296	1.01	73	Norwood, . . .	1,446	1,380	.95
33	Essex, . . .	283	297	1.00	74	Stoneham, . . .	1,083	1,032	.95
34	Hingham, . . .	749	779	1.00	75	Ashfield, . . .	149	142	.95
35	Sandwich, . . .	214	215	1.00	76	Yarmouth, . . .	187	178	.95
36	Needham, . . .	796	796	1.00	77	Erving, . . .	179	170	.95
37	Shelburne, . . .	231	231	1.00	78	Hopedale, . . .	357	339	.95
38	Conway, . . .	194	194	1.00	79	E. Bridgewater, . .	548	519	.95
39	Orleans, . . .	169	169	1.00	80	Cummington, . . .	131	124	.95
40	Holliston, . . .	448	447	1.00	81	Petersham, . . .	130	123	.95
41	Chatham, . . .	234	233	1.00	82	Holden, . . .	421	398	.95

TOWNS AND CITIES.				TOWNS AND CITIES.			
	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
83	New Salem,	109	.94	143	Wales,	95	.87
84	Hanover,	359	.94	144	Stockbridge,	363	.87
85	Lexington,	805	.94	145	Granby,	118	.87
86	Saugus,	1,393	.94	146	South Hadley,	936	.87
87	Medford,	3,914	.94	147	Newton,	6,597	.87
88	Wayland,	366	.94	148	Dunstable,	78	.87
89	Milton,	1,330	.94	149	Chelmsford,	800	.87
90	Middleborough,	1,260	.93	150	Northbridge,	1,554	.87
91	Falmouth,	490	.93	151	Windsor,	90	.87
92	Groveland,	436	.93	152	Wilbraham,	231	.87
93	Hopkinton,	431	.93	153	Wrentham,	223	.87
94	West Boylston,	202	.93	154	Somerset,	490	.87
95	Beverly,	2,888	.92	155	Oakham,	96	.86
96	Townsend,	264	.92	156	Athol,	1,262	.86
97	Sterling,	200	.92	157	Revere,	3,203	.86
98	Hadley,	319	.92	158	Eastham,	72	.86
99	Wellfleet,	134	.92	159	Northampton,	3,071	.86
100	Walpole,	807	.91	160	Acton,	340	.86
101	Royalston,	143	.91	161	Millis,	262	.86
102	Hudson,	1,102	.91	162	Westford,	403	.86
103	Greenfield,	1,570	.91	163	Belmont,	845	.85
104	Arlington,	1,859	.91	164	Dracut,	538	.85
105	Norwell,	227	.90	165	Cambridge,	16,110	.85
106	Westminster,	245	.90	166	Leicester,	710	.85
107	W. Springfield,	1,705	.90	167	Paxton,	87	.85
108	Belchertown,	390	.90	168	Sharon,	346	.85
109	Somerville,	12,298	.90	169	Norfolk,	150	.85
110	Williamstown,	804	.90	170	Pittsfield,	4,593	.84
111	Cohasset,	443	.90	171	Burlington,	69	.84
112	Fairhaven,	895	.90	172	Acushnet,	205	.84
113	Brockton,	8,480	.90	173	Charlton,	390	.84
114	Stow,	201	.90	174	Springfield,	12,694	.84
115	West Tisbury,	67	.90	175	Boxborough,	54	.83
116	Sudbury,	188	.89	176	Shirley,	304	.83
117	Williamsburg,	397	.89	177	Oxford,	576	.83
118	Sheffield,	229	.89	178	Carlisle,	89	.83
119	Ashby,	125	.89	179	Charlestown,	172	.83
120	Plymouth,	1,973	.89	180	Hubbardston,	195	.83
121	Littleton,	218	.89	181	Norton,	324	.83
122	Dana,	118	.89	182	W. Bridgewater,	388	.83
123	New Ashford,	9	.89	183	Mashpee,	41	.83
124	Weston,	297	.89	184	Rutland,	237	.83
125	Chester,	269	.89	185	Boston,	104,150	.83
126	Mansfield,	833	.89	186	Otis,	75	.83
127	Lakeville,	141	.89	187	N. Marlborough,	189	.83
128	Plainville,	208	.88	188	Millbury,	843	.82
129	Montague,	1,238	.88	189	Marion,	142	.82
130	Northborough,	337	.88	190	Nantucket,	412	.82
131	Winchester,	1,681	.88	191	Avon,	412	.82
132	Edgartown,	180	.88	192	Goshen,	62	.82
133	Westborough,	675	.88	193	Nahant,	174	.82
134	Princeton,	145	.88	194	Seekonk,	230	.82
135	Randolph,	707	.88	195	Gill,	146	.82
136	Monroe,	58	.88	196	Easthampton,	1,247	.82
137	Billerica,	519	.88	197	Winchendon,	1,133	.82
138	Kingston,	395	.88	198	Northfield,	240	.82
139	Harwich,	353	.88	199	Blackstone,	1,196	.82
140	Hamilton,	308	.88	200	Buckland,	261	.82
141	Bolton,	105	.88	201	Truro,	155	.82
142	Grafton,	883	.88	202	Leyden,	65	.82

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TOWNS AND CITIES.				TOWNS AND CITIES.					
	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		
203	Heath,	59	.48	.81	263	Hinsdale,	261	194	.74
204	Chelsea,	7,440	6,047	.81	264	Deerfield,	346	257	.74
205	Gosnold,	16	13	.81	265	Warren,	707	525	.74
206	Hampden,	108	86	.81	266	Georgetown,	308	228	.74
207	Halifax,	83	67	.81	267	Waltham,	3,987	2,951	.74
208	Franklin,	1,043	842	.81	268	Woburn,	3,463	2,559	.74
209	Ashburnham,	362	291	.80	269	Chesterfield,	88	65	.74
210	Rowe,	96	77	.80	270	Clinton,	2,416	1,782	.74
211	Hatfield,	264	217	.80	271	Southwick,	175	129	.74
212	Worcester,	22,680	8,273	.80	272	Lee,	727	535	.74
213	Barre,	431	345	.80	273	Sandisfield,	98	72	.73
214	Malden,	7,744	6,173	.80	274	Westwood,	241	177	.73
215	Cheshire,	241	192	.80	275	Sturbridge,	348	255	.73
216	Shutesbury,	49	39	.80	276	Colrain,	370	271	.73
217	Pembroke,	191	152	.80	277	N. Brookfield,	509	372	.73
218	Andover,	1,301	1,034	.79	278	Peabody,	2,377	1,733	.73
219	Dover,	129	102	.79	279	Prescott,	59	43	.73
220	Lancaster,	374	295	.79	280	Russell,	179	130	.73
221	Mattapoisett,	219	173	.79	281	Granville,	168	122	.73
222	Southampton,	157	124	.79	282	Tyngsborough,	140	101	.72
223	Worthington,	104	82	.79	283	Westport,	507	365	.72
224	Lynnfield,	118	93	.79	284	Lowell,	14,498	10,424	.72
225	Swansea,	309	242	.78	285	Quincy,	7,258	5,201	.72
226	Marlborough,	2,923	2,287	.78	286	Savoy,	95	68	.72
227	Lunenburg,	220	172	.78	287	Boxford,	105	75	.71
228	Newbury,	220	172	.78	288	Brimfield,	146	104	.71
229	Egremont,	87	68	.78	289	Agawam,	548	390	.71
230	Attleborough,	2,521	1,966	.78	290	North Reading,	166	118	.71
231	Duxbury,	208	162	.78	291	Westhampton,	114	81	.71
232	Carver,	208	162	.78	292	Leominster,	2,778	1,965	.71
233	Stoughton,	991	771	.78	293	Hawley,	92	65	.71
234	Boylston,	126	98	.78	294	Wendell,	102	72	.71
235	Taunton,	5,638	4,377	.78	295	Blandford,	91	64	.70
236	Uxbridge,	799	617	.77	296	Middleton,	185	130	.70
237	Milford,	2,100	1,621	.77	297	Rehoboth,	356	250	.70
238	Douglas,	347	267	.77	298	Pelham,	96	67	.70
239	Berkley,	172	132	.77	299	Spencer,	1,208	843	.70
240	Ipswich,	886	680	.77	300	Dartmouth,	759	529	.70
241	Bellingham,	313	240	.77	301	Harvard,	167	116	.69
242	Lynn,	12,313	9,430	.77	302	Palmer,	1,415	982	.69
243	Plainfield,	64	49	.77	303	Lincoln,	137	95	.69
244	Newburyport,	2,361	1,806	.76	304	Canton,	831	576	.69
245	Westfield,	2,451	1,873	.76	305	E. Longmeadow,	362	249	.69
246	Berlin,	182	139	.76	306	Richmond,	83	57	.69
247	Watertown,	1,927	1,467	.76	307	Montgomery,	35	24	.69
248	Enfield,	171	129	.75	308	Wenham,	182	124	.68
249	Hancock,	81	61	.75	309	Bedford,	185	126	.68
250	Haverhill,	6,948	5,230	.75	310	Hanson,	286	194	.68
251	Raynham,	270	203	.75	311	Oak Bluffs,	273	183	.68
252	Leverett,	133	100	.75	312	Mt. Washington,	12	8	.67
253	Sunderland,	161	121	.75	313	Alford,	51	34	.67
254	Brewster,	112	84	.75	314	Chilmark,	36	24	.67
255	Phillipston,	76	57	.75	315	Adams,	2,230	1,484	.67
256	Freetown,	257	192	.75	316	Gardner,	2,217	1,465	.66
257	Dighton,	387	289	.75	317	Salisbury,	287	189	.66
258	Templeton,	720	536	.74	318	Tewksbury,	222	146	.66
259	Methuen,	1,892	1,408	.74	319	Monterey,	84	55	.65
260	Rochester,	164	122	.74	320	Holland,	17	11	.65
261	Warwick,	121	90	.74	321	Chicopee,	3,515	2,293	.65
262	W. Brookfield,	187	139	.74	322	Clarksburg,	279	182	.65

BOARD OF EDUCATION.

TOWNS AND CITIES.				TOWNS AND CITIES.			
	No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.		No. of children between 5 and 15 years of age in each town.	Average attendance upon school.	Ratio of attendance to the whole No. of children between 5 and 15, expressed in decimals.
323	New Braintree, .	100	.65	339	Lawrence, . . .	13,200	.58
324	Washington, .	60	.39	340	Ludlow, . . .	1,019	.58
325	Hyde Park, . .	2,649	1,719	341	Fall River, . .	21,862	.58
326	North Adams, .	4,370	2,822	342	Plympton, . . .	73	.58
327	Longmeadow, .	189	121	343	Florida, . . .	113	.58
328	Lanesborough, .	138	88	344	Hardwick, . . .	587	.57
329	W. Stockbridge, .	202	129	345	Salem, . . .	7,072	.57
330	Rowley, . . .	324	206	346	Fitchburg, . . .	6,785	.56
331	Tyringham, . .	60	38	347	Greenwich, . .	88	.56
332	New Bedford, .	14,056	8,890	348	Holyoke, . . .	10,460	.54
333	Whately, . . .	111	70	349	Amesbury, . . .	1,632	.53
334	Becket, . . .	173	108	350	Sutton, . . .	672	.52
335	Sherborn, . . .	225	179	351	Tolland, . . .	36	.47
336	Ware, . . .	1,537	937	352	Southbridge, .	2,155	.45
337	Auburn, . . .	472	283	353	Dudley, . . .	809	.41
338	Peru, . . .	69	40	354	Webster, . . .	2,010	.34

III. GRADUATED ATTENDANCE TABLE.

In which all the towns in the State are numerically arranged according to the ratio of AVERAGE ATTENDANCE of children upon the public schools for the school year ending June, 1907, to the whole number of children in town between 5 and 15 years of age, September 1, 1907.

COUNTIES.			COUNTIES.		
		Ratio of attendance.			Ratio of attendance.
1	Barnstable, . . .	.97	9	Nantucket, . . .	.82
2	Plymouth, . . .	.94	10	Berkshire, . . .	.77
3	Franklin, . . .	.88	11	Essex, . . .	.75
4	Middlesex, . . .	.86	12	Worcester, . . .	.74
5	Norfolk,86	13	Hampden,71
6	Dukes,84	14	Bristol,67
7	Hampshire,83			
8	Suffolk,83		State,80

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C. Report of Julius E. Warren, agent of the Board,	257-265
D. Report of Frederic L. Burnham, agent of the Board for the promotion of manual arts,	267-296
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F. Report of Visits to Normal Schools in Other States, by John G. Thompson,	317-328
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